



**RIO DELL CITY COUNCIL AGENDA**  
**REGULAR MEETING - 6:30 P.M.**  
**TUESDAY, DECEMBER 3, 2019**  
CITY COUNCIL CHAMBERS  
675 WILDWOOD AVENUE, RIO DELL

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***WELCOME** - By your presence in the City Council Chambers, you are participating in the process of representative government. Copies of this agenda, staff reports and other material available to the City Council are available at the City Clerk's office in City Hall, 675 Wildwood Avenue. Your City Government welcomes your interest and hopes you will attend and participate in Rio Dell City Council meetings often.*



*In compliance with the Americans with Disabilities Act (ADA), if you need special assistance to participate in this meeting, please contact the Office of the City Clerk at (707) 764-3532. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to the meeting. Assistance listening devices are now available for the hearing impaired. Please see the City Clerk for a receiver.*

A. CALL TO ORDER

B. ROLL CALL

C. PLEDGE OF ALLEGIANCE

D. CEREMONIAL MATTERS

1) 2019/1203.01 – Proclamation – Human Rights Awareness Month 1

E. PUBLIC PRESENTATIONS

*This time is for persons who wish to address the Council on any matter not on this agenda and over which the Council has jurisdiction. As such, a dialogue with the Council or staff is not intended. Items requiring Council action not listed on this agenda may be placed on the next regular agenda for consideration if the Council directs, unless a finding is made by at least 2/3rds of the Council that the item came up after the agenda was posted and is of an urgency nature requiring immediate action. Please limit comments to a maximum of 3 minutes.*

F. CONSENT CALENDAR

*The Consent Calendar adopting the printed recommended Council action will be enacted with one vote. The Mayor will first ask the staff, the public, and the Councilmembers if there is anyone who wishes to address any matter on the Consent Calendar. The matters removed from the Consent Calendar will be considered individually following action on the remaining consent calendar items.*

1) 2019/1203.02 - Approve Minutes of the November 19, 2019 Regular Meeting <b>(ACTION)</b>	3
2) 2019/1203.03 - Approve Resolution No. 1438-2019 Awarding ATP Project to Mercer Fraser Company and Amending the FY 2019-20 Budget <b>(ACTION)</b>	11
3) 2019/1203.04 - Receive and File Fiscal Year 2018-19 Annual Financial Report <b>(ACTION)</b>	15
4) 2019/1203.05 - Approve Resolution No. 1440-2019 Authorizing Application for, and Receipt of SB-2 Planning Grants Program Funds <b>(ACTION)</b>	20
5) 2019/1203.06 - Receive and File Letter from Nuisance Advisory Committee Endorsing Universal Pickup as a Concept <b>(ACTION)</b>	25
G. ITEMS REMOVED FROM THE CONSENT CALENDAR	
H. REPORTS/STAFF COMMUNICATIONS	
I. SPECIAL PRESENTATIONS/STUDY SESSIONS	
1) 2019/1203.07 - Presentation on Solar Feasibility Study <b>(DISCUSSION/POSSIBLE ACTION)</b>	27
J. SPECIAL CALL ITEMS/COMMUNITY AFFAIRS	
1) 2019/1203.08 - Update on Humboldt Wind Energy Project <b>(DISCUSSION/POSSIBLE ACTION)</b>	62
2) 2019/1203.09 - Danco Project Update Related to Outreach Efforts <b>(DISCUSSION/POSSIBLE ACTION)</b>	63
K. ORDINANCES/SPECIAL RESOLUTIONS/PUBLIC HEARINGS	
1) 2019/1203.10 - Introduction and first reading(by title only) of Ordinance 378-2019 Establishing a Water Efficient Landscape Ordinance, Chapter 13.40 of the Rio Dell Municipal Code <b>(DISCUSSION/POSSIBLE ACTION)</b>	64

L. COUNCIL REPORTS/COMMUNICATIONS

M. ADJOURNMENT

*The next regular City Council meeting is scheduled for  
**Tuesday, December 17, 2019 at 6:30 p.m.***

**PROCLAMATION**  
*In Recognition of*  
**HUMAN RIGHTS AWARENESS MONTH**  
December 2019

*WHEREAS*, the United Nations Assembly adopted The Universal Declaration of Human Rights in December 1948 and this marked the first attempt in human history to set down the minimum rights every person should enjoy; and

*WHEREAS*, in 2019 public awareness has grown a lack of civility among groups of people and individuals in their ability to discuss without anger or fear, topics of the day; and

*WHEREAS*, our citizens strive to uphold and defend the right of free speech; and

*WHEREAS*, speech whether free or inhibited, is now strained by intolerant adversaries and from a multitude of pressures, including, but not limited to statements by family members, public officials, on social media, and in schools; and

*WHEREAS*, anger and hatred can go unchallenged in our daily lives and in our schools, which leads to bullying and fear-provoking actions, and

*WHEREAS*, the general public participates in retaliatory actions of hate and vile speech because they see no alternative.

*BE IT RECOGNIZED*, that ultimately hate speech, intolerant language, and bias and discrimination, has led to actions, which are physically violent, emotionally intimidating, and in some cases lead to physical harm. Such a transformation within our culture is and will further erode the peace and tranquility our citizens expect and deserve, leading to a more violent community ending in harm to our citizens young and old.

*BE IT FURTHER RECOGNIZED*, that while the citizens of Humboldt County represent a small, mostly rural population center within the framework of our country, we must all act in ways big and small, to change the climate within our control.

*THEREFORE, BE IT RESOLVED*, that in December 2019, individuals, groups of people, agencies, departments, elected officials and public servants choose a different path, a path that acknowledges peace, harmony, and human rights for all. In so doing, we vow to engage hate at all levels possible during the year 2020. Human Rights and freedom from fear must exist for all people or they exist for no one.

*BE IT PROCLAIMED*, that in service of this resolution, Human Rights Awareness Month will be the beginning of a continuing effort throughout the coming year, the Humboldt Kindness campaign. During this time, we advocate for special civic engagement to

occur, personal reflection to take place, efforts to educate the public, and a community effort to use kindness instead of hate, regardless of personal perceptions and political views, which are the primary goals of our society.

The City of Rio Dell hereby proclaims **December 2019** as **HUMAN RIGHTS AWARENESS MONTH** and encourages all citizens to educate themselves about the Universal Declaration of Human Rights and the privileges and freedoms we enjoy in our diverse society.

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Debra Garnes, Mayor

**RIO DELL CITY COUNCIL  
REGULAR MEETING MINUTES  
NOVEMBER 19, 2019**

The regular meeting of the Rio Dell City Council was called to order at 6:30 p.m. by Mayor Garnes.

ROLL CALL:           Present:     Mayor Garnes, Mayor Pro Tem Woodall, Councilmembers Johnson, Strahan and Wilson

                          Others Present:   City Manager Knopp, Chief of Police Conner, Interim Finance Director Dillingham, Wastewater Superintendent Taylor and City Clerk Dunham

                          Absent:       Community Development Director Caldwell, and Water/Roadways Superintendent Jensen

**PUBLIC PRESENTATIONS**

**Ranada Laughlin** addressed the Council and said that she was excited about the possibility of a dog park in Rio Dell. She said that the proposed location at Center and Ireland is a good location as a start and suggested parallel parking for travelers. She offered her assistance and thanked the Council for considering the park.

**Sean DeVries**, candidate for Humboldt County District 2 Supervisor, introduced himself and spoke briefly on a couple of points. He pointed out that the economy is having a problem due to the County's handling of cannabis permits and that he was happy to say that Rio Dell was embracing it here. He said that some things that could be done to boost the local economy with cannabis are to open up the amnesty program and allow equity applicants in to help people transition from the black market.

He also applauded the City for taking a strong stand against Terra Gen and expressed the need to invest in the local grid so the community is not subject to PG&E power shutoffs. He mentioned a group of people in Fortuna that are very much against the Terra Gen project and said if the City Council sees wisdom in it, to perhaps adopt a proclamation, proclaiming a day to look at the hillside and hopefully others would join in to help stop the project from moving forward.

**Rick Pelren** congratulated Mr. DeVries for stepping up and running against Supervisor Fennell who seems to have sold us out. He said that their exercise group discusses these matters and that they were very excited about the 2020 election as they would be taking a good look at Sean DeVries and what he has to offer.

**Susan Nessen**, 40-year resident of Rio Dell thanked City Manager Knopp for standing up for the citizens against the Terra Gen Wind Energy Project at the Humboldt County Planning

**NOVEMBER 19, 2019 MINUTES**  
**Page 2**

Commission meeting. She expressed concern about the possible health effects of wind turbines and as a City, felt it is something that should be looked into.

**CONSENT CALENDAR**

Mayor Garnes asked if any councilmember, staff or member of the public, would like to remove any item from the consent calendar for separate discussion.

Mayor Pro Tem Woodall removed consent calendar Item No. 5, *Resolution No. 1437-2019 Amending the FY 2019-20 Budget to increase Appropriations for Reimbursement to the Chamber of Commerce for installation of Holiday Decorations.*

Councilmember Strahan removed consent calendar Item No. 3, *Fiscal Year 2018-19 Annual Financial Report.*

Motion was made by Woodall/Johnson to approve the consent calendar including approval of minutes of the November 5, 2019 regular meeting; approval of minutes of the November 12, 2019 special meeting; authorizing the Finance Director to sign and submit the City's Annual Regional Surface Transportation Program (RSTP) Claim to the Humboldt County Association of Governments (HCAOG); and approval of Resolution No. 1439-2019 authorizing the City Manager to submit a grant application for the Per Capita Grant Program from the State Department of Parks and Recreation. Motion carried 5-0.

**ITEMS REMOVED FROM THE CONSENT CALENDAR**

Receive and File Fiscal Year 2018-19 Annual Financial Report

Councilmember Strahan said that she had asked the Finance Director for some additional numbers and asked that this item be tabled until the next meeting.

Motion was made by Strahan/Woodall to table the item to the next regular meeting. Motion carried 5-0.

Approve Resolution No. 1437-2019 Amending the FY 2019-20 Budget to Increase Appropriations for Reimbursement to the Chamber of Commerce for Installation of Holiday Decorations

Mayor Pro Tem Woodall said that the reason for removing this item from the consent calendar was so she could abstain from vote.

Councilmember Strahan stated that it was her understanding from the last meeting that the light pole was not part of the holiday decorations.

City Manager Knopp explained that it was his understanding that the City Council wanted the pole included as a reimbursable expense. The amount of the contribution was increased

**NOVEMBER 19, 2019 MINUTES**  
**Page 3**

from \$1,500 to \$3,500 and in that discussion, the Council authorized the pole to be part of the total amount.

He said if it is the desire of the Council, the item could be continued to the next meeting to allow staff to listen to the tape recording of the meeting for clarification of the action.

Councilmember Strahan made a motion to continue the item to the next regular meeting.

Mayor Garnes referred to page 5 of the November 5, 2019 minutes where City Manager Knopp commented that staff would return to Council with a Resolution approving the budget amendment authorizing the funds to be used as reimbursement for the pole where the City Council would deem the use of funds as a public benefit for the general public since the light pole does not really fall into the category of Holiday decorations.

City Manager Knopp said that one option would be for the Council to authorize the Mayor to sign the Resolution with the words "and the pole" stricken from the text.

Councilmember Strahan withdrew her previous motion and made a motion to approve Resolution No. 1437-2019 amending the FY 2019-20 Budget to increase appropriations for reimbursement to the Chamber of Commerce from \$1,500 to \$3,500 for installation of Holiday decorations with the words "and the pole" stricken from the text. The motion was seconded by Councilmember Wilson.

Mayor Garnes stated that it seems a little disingenuous because everyone knows the reason for the increase was for the pole and that \$3,500 for Christmas decorations is a lot after contributing \$1,500 last year.

Mayor Garnes called for public comment. No public comment was received.

Motion then carried 3-1; Mayor Garnes dissenting and Mayor Pro Tem Woodall abstaining.

## **REPORTS/STAFF COMMUNICATIONS**

### City Manager/Staff Update

City Manager Knopp provided highlights of the staff report and noted that staff attended two Humboldt County Planning Commission meetings on Terra Gen, he and Mayor Garnes attended a meeting with the Wiyot on Bear River Ridge, had discussions with the State Parks over grant application processes, noted that the ATP Project bid award was delayed but expected to make a recommendation at the December 3<sup>rd</sup> Council meeting, and that staff met with US Census 2020 staff and they are still looking for census takers.



In addition, he reported that staff expects roadwork to begin tomorrow on Belleview as preparatory work for the ATP Project. The work was expected to continue Thursday and possibly Friday.

Councilmember Wilson commented that the City Manager did an excellent job representing the City Council on the Terra Gen Project and thanked him for his efforts. He received applause from the Council and the public.

Councilmember Strahan said that she attended a meeting with IHSS (In home Supportive Services) at the Fire Hall and that they are also hiring. She noted that there were six people present from Rio Dell that were interested in applying.

She asked about the work occurring at the Humboldt Rio Dell Business Park and if it was related to extension of the waterline.

City Manager Knopp explained that it was extension of PG&E lines.

#### **SPECIAL CALL ITEMS/COMMUNITY AFFAIRS**

##### Discussion of Police Department's Code Enforcement Efforts

Chief of Police Conner provided a brief staff report and said that this item is coming before the Council at the request of Mayor Pro Tem Woodall. He explained that the role of the City Council is to provide broad strategic direction as opposed to bring forth individual cases. The place to go into particulars is at the Nuisance Advisory Committee meetings. He offered to answer any questions about what they are doing and why.

He provided a list of the current code enforcement cases and those closed within the last year.

Mayor Pro Tem Woodall said that she just wanted the Council to receive an overview of how things are going since it has been 6 months since the creation of the committee. She noted that two Councilmembers are on the Nuisance Advisory Committee but she wanted the full Council to be provided with the same information.

Chief Conner reported that there are currently two properties that they will be beginning abatements on next month, weather permitting. When those are completed, they will look at other properties needing attention. He said that staff spent time creating forms on Comcate (the City's cloud-based case management system for code enforcement), for vehicle abatement to streamline the process. In addition, staff added an administrative citation form to Comcate to send those letters out via Certified Mail.

He said the department continues to tow vehicles at an average of 2-4 per month. Officer Fielder works 10 hours/week and spends the majority of his time on code enforcement.

Councilmember Johnson asked if more resources were needed to dig more deeply into code enforcement.

Chief Conner responded that for the short run, no and the long run, yes. He said if it is the Council's desire to make code enforcement a top priority, additional staff would be needed, perhaps a part time code enforcement/animal control officer. He noted that the position could possibly be used to recruit an apprentice position for a future police officer position.

Mayor Garnes called for public comment on the staff update.

**Ranada Laughlin** said that in looking at the list of cases, there are check marks and x's and asked if the x's represent closed cases.

Chief Conner explained that all of the cases on the long list are open cases and the cases on the short list are closed. The X simply indicates whether google maps can identify the location or not.

#### Discussion on Syringe Exchange Program

City Manager Knopp provided a staff report and said that this matter was first brought before the Council at their December 4, 2018 meeting and is returning for further consideration at the request of Mayor Pro Tem Woodall. He said that attached to the staff report was the City of Fortuna's Ordinance on Syringe Exchange Programs and Safe Disposal of Sharps, the December 4, 2018 staff report and minutes and subsequent correspondence issued by the City on the subject. He referred to the December 4 staff report and noted that the Council voted to pursue option 3 to issue a position statement by issuing an advisory letter or resolution to the State and other involved parties expressing the City's position on SEP's (syringe exchange programs) being authorized or active in Rio Dell.

Mayor Pro Tem Woodall said that she wanted to take another look at the issue in a proactive way with the possibility of a new community resource center coming in and the recent change in demographics with the Danco Project here.

Councilmember Johnson commented that it appears that needle exchange programs save lives but that he would like to hear from someone in the medical field to define what the extent of the problem is in Rio Dell.

Councilmember Wilson agreed and noted that Dave Griffith who picks up cigarette butts and trash every day indicated that he had not seen even one discarded syringe in the median. Citizens have however, expressed concern about seeing them and it would not be a bad idea to have a plan in place.

Mr. Griffith interjected that he actually picked up one syringe this week.

**NOVEMBER 19, 2019 MINUTES**  
**Page 6**

Mayor Pro Tem Woodall noted that she had picked up one as well at the tennis courts.

Councilmember Wilson said he would like to further understand the need and potential liability to the City. He said that it was his understanding that the City could not stop it if an agency wanted to bring a program into town.

City Manager Knopp agreed to get clarification and report back to the Council.

Councilmember Strahan agreed with Mayor Pro Tem Woodall and said that the City Council needs to be more pro-active with the changing profile of the City. She said she thought Fortuna's Ordinance was a good ordinance.

Councilmember Wilson asked Chief Conner to comment on the subject.

Chief Conner said that they are asked to come and pick up needles probably 3-4 times a week although they typically find them near vehicles or at residences pursuant to some kind of search. He noted that he sees more syringes along the freeway when he rides his bike to and from work, sometimes 30-50 at a time, than he sees in town.

Mayor Pro Tem Woodall asked if many syringes were found at the river bar.

Chief Conner noted that they do not patrol much at the river bar anymore but when they did, he did not recall finding any.

Mayor Pro Tem Woodall commented that she talked with the Mayor Pro Tem of Fortuna and was told that having a needle exchange program helped dramatically with the proper disposal of needles.

Councilmember Strahan noted that she participated in the prior river bar cleanup a few years ago and that needles were found at that time.

City Manager Knopp explained that the State Department of Public Health issued a letter authorizing SEP's in various locations throughout California. For Humboldt County, they specifically listed cities and locations, which in part included Fortuna, Eureka and Willow Creek, which is how he believes they became aware of the program. As of now, there has been no needle exchange program authorized for Rio Dell as far as he knows. He was unclear as to whether a letter is required to be sent to participate in a needle exchange program.

Mayor Garnes said that she supported looking at an ordinance and to proactively address the issue only after the City Council is properly educated on the facts.

Mayor Garnes called for public comment on the subject. No public comment was received.

Motion was made by Woodall/Johnson to direct staff to invite a medical professional to a future meeting to define the issues. Motion carried 5-0

## **ORDINANCES/SPECIAL RESOLUTIONS/PUBLIC HEARINGS**

### Second Reading (by title only) and Adoption of Ordinance No. 377-2019 Amending Chapter 15.05 "Construction Codes" Section 15.05.020 of the Rio Dell Municipal Code to Adopt the 2019 California Building Codes

City Manager Knopp provided a staff report and explained that every three years, the California Building Standards Commission (CBSC) adopts building regulations known as the California Building Standards Code of Regulations, Title 24. Local governments or jurisdictions can adopt the code "as is" or add more restrictive provisions based on their specific geologic, climatic, and topographical conditions to protect their communities.

The 2019 Codes become effective on January 1, 2020 however; the specific code addition applicable to a building project is established by the building permit application date. As such, projects submitted for a permit on or after January 1, 2020 must comply with the 2019 edition of the California Building Standards Code. He commented that in addition to the ten specific codes included with the adoption, is the 2018 International Property Maintenance Code, which provides the City authority to abate structures that are imminent hazards to the public in a quick and efficient manner.

Staff's recommendation was to conduct the second reading (by title only), open a public hearing to receive public input, close the public hearing, deliberate, and adopt Ordinance 377-2019, amending Chapter 15.05, "Construction Codes" Section 15.05.020 of the Rio Dell Municipal Code.

Mayor Garnes opened the public hearing at 7:13 p.m. to receive public comment on the proposed ordinance. No public comment was received.

Motion was made by Johnson/Woodall to conduct second reading (by title only) and adopt Ordinance No. 377-2019 amending Chapter 15.05, "Construction Codes" Section 15.05.020 of the Rio Dell Municipal Code. Motion carried 5-0.

## **COUNCIL REPORTS/COMMUNICATIONS**

Councilmember Wilson reported that he would be attending the Humboldt Waste Management Authority meeting on Thursday and that Redwood Coast Energy Authority (RCEA) meetings are normally held on the 4<sup>th</sup> Thursday but because of Thanksgiving, the meeting was rescheduled for the 3<sup>rd</sup> Thursday this month. He said that on that agenda, is a discussion of PG&E becoming a customer-owned utility so there will likely be good dialog. He said if anyone is interested in attending, it will be held at Humboldt Bay Municipal Water District Office in Eureka at 3:00 p.m.

**NOVEMBER 19, 2019 MINUTES**  
**Page 8**

Councilmember Strahan announced that she would be attending an HCAOG meeting on Thursday so would not be able to attend the Humboldt County Planning Commission meeting. She thanked Councilmember Johnson for filling in for her at the meeting in Crescent City.

Councilmember Johnson reported that the meeting in Crescent City lasted 3½ hours and that he was impressed with the commissioners. He said that he and Marcella Clem, Executive Director of HCAOG were a tag team, with him reporting on the Last Chance Grade and Marcella on what is going on in the County.

Mayor Garnes announced that she was unable to attend the last Humboldt County Planning Commission meeting due to having surgery on her foot that morning but that she would be attending the meeting on this Thursday. She urged citizens to step up, show up and make a point that the Terra Gen Project is NOT something that Rio Dell wants.

**ADJOURNMENT**

Motion was made by Johnson/Strahan to adjourn the meeting at 7:18 p.m. to the December 3, 2019 regular meeting. Motion carried 5-0.

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Debra Garnes, Mayor

Attest:


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Karen Dunham, City Clerk



*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 3, 2019

TO: Rio Dell City Council  
FROM: Kyle Knopp, City Manager   
SUBJECT: Adoption of Resolution No. 1438-2019 Awarding ATP Project to Mercer-Fraser Company and Amending the Fiscal Year 2019-20 Budget

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Approve Adoption of Resolution No. 1438-2019

Alternatives: None are recommended. This step in the process needs to be completed by December 27, 2019 or the City risks forfeiting the project and repaying all funds expended to date.

BACKGROUND AND DISCUSSION

In October of 2015, the City was awarded 1.533m of ATP Cycle 2 funds for this project. The project focuses on realignment and reconstruction of the Wildwood Avenue and US101 interface including an intersection that was the location of Rio Dell's most recent traffic fatality. There are also some improvements to non-motorized transit on Belleview and Davis Streets.

ATP Project bids were received and opened on November 4, 2019. The City received three submissions from responsive and responsible bidders. Mercer-Fraser bid \$962,320 to become the lowest bidder. This total included two additive alternatives that will include some AC overlays near US 101 and as well as sidewalk reconstruction near US 101.

The good bid results mean that there will likely be some undesignated funding for change orders. In theory, \$106,000 might be available for change orders. Staff will work with the City Engineer and Caltrans to modify the project in the following order of priority, pending availability of funds:

1. Add additional "Yield" marking and bump dots to left turn lane for Northbound US 101 onramp. Estimate: \$2,000
2. Complete ADA work identified by US Department of Justice Independent Licensed Architect (ILA) for path for path of travel from bus stop to library. (note: only a portion of what was identified by the ILA fits within the ATP scope). Estimate: \$61,425

3. Extend sidewalk on Eeloa from the intersection to the project's boundary. Estimate: \$10,000
4. Repairs to existing sidewalk on Davis Street at various locations: Estimate \$18,000
5. Extend southern terminus of slurry seal to Painter Street. Estimate: \$28,000

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**RESOLUTION NO. 1438-2019**  
**A RESOLUTION OF THE CITY COUNCIL**  
**OF THE CITY OF RIO DELL**  
**AWARDING THE ATP PROJECT TO MERCER-FRASER COMPANY**  
**AND**  
**AMENDING THE FISCAL YEAR 2019-20 BUDGET**

**WHEREAS**, the City of Rio Dell received an Active Transportation Program (ATP), Safe Routes to Schools grant to install curb ramps, buffered bike lanes, striping, sidewalk and crosswalk improvements along Eeloa Avenue, Wildwood Avenue, Belleview Avenue, and Davis Street and engaged engineers at GHD, Inc. to prepare plans, specifications and contract documents for the work; and

**WHEREAS**, on October 8 and October 15, 2019, the City of Rio Dell issued and publicized a notice inviting bids ("Notice") with a base bid and two additive alternate items for the Public Works Project, entitled Safe Routes to School, ATPL-5396 ("Project"), pursuant to Section 20160 et seq. of the California Public Contract Code and the Rio Dell Municipal Code; and

**WHEREAS**, the Notice required all bids for the Project to be sealed and delivered to GHD, Inc. on or before November 4, 2019 at 10:00 AM, at which time the submitted bids would be opened and read in an open forum; and

**WHEREAS**, on November 4, 2019, three bid proposals were received as follows:

	GR Sundberg, Inc.	RAO Construction	Mercer-Fraser Company
Base Bid	1,068,290.00	848,967.50	759,290.50
Additive Alternate 1	300,025.00	118,419.00	130,840.49
Additive Alternate 2	100,775.00	83,182.00	72,188.60
Total	\$ 1,469,090.00	\$ 1,050,568.50	\$ 962,319.59

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of the City of Rio Dell, California, as follows:

1. That the Project plans and specifications are hereby approved;
2. That the contract for construction services for the Project be awarded to the lowest responsible bidder, Mercer-Fraser Company, in the amount of \$962319.59, for the base bid and additive alternates 1 and 2;
3. That the City Manager is authorized to execute a contract with Mercer-Fraser Company for construction services and, if necessary, to negotiate change orders within the overall



Project budget, in substantial conformance with the Project plans and specifications;

4. That the City Manager is hereby authorized and directed to take such actions as he may deem necessary and proper to effectuate and consummate the contract, subject to final review and approval by the City Attorney;
5. That the City of Rio Dell FY 2019-20 Budget is hereby amended to provide funding for engineering services and construction of the Project as follows:

Revenue:	4766 047 Grant ATP	\$1,297,000
Expenditures:	6500 047 Infrastructure ATP	\$1,261,000
	5115 047 Professional Services	\$ 36,000

**PASSED AND ADOPTED** by the City Council of the Rio Dell on this 3rd day of December, 2019 by the following vote:

Ayes:  
Noes:  
Abstain:  
Absent:

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Debra Garnes, Mayor

ATTEST:

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Karen Dunham, City Clerk



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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 3, 2019

TO: Rio Dell City Council  
THROUGH: Kyle Knopp, City Manager  
FROM: Cheryl Dillingham, Interim Finance Director <sup>CD</sup>  
SUBJECT: Fiscal Year 2018-19 Annual Financial Report <sub>3</sub>

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Receive and file the Fiscal Year (FY) 2018-19 Annual Financial Report.

BACKGROUND AND DISCUSSION

The Finance Director provides reports on the budget to keep the Rio Dell City Council and the public informed on the status of the City's finances. The attached Annual Financial Report for FY 2018-19 summarizes budgeted versus actual amounts and describes any significant variances at the end of the fiscal year.

The attached report is for informational purposes and the audited Financial Statements, which should be completed in January 2020, will contain additional and more detailed information.

ATTACHMENTS

FY 2018-19 Annual Financial Report (Unaudited)

# ANNUAL FINANCIAL REPORT

Year End FY 2018-19

This Annual Financial Report summarizes and analyzes the financial performance of the City for Fiscal Year (FY) 2018-19. The report describes the revenues received and expenditures incurred and explains any material differences between these values and the adjusted budget. It also presents the amount of the financial reserves at the end of the year. This report was prepared using final unaudited FY 2018-19 financial information as of June 30, 2019.

## SUMMARY

Total City revenues were \$4,739,512 which exceeded total expenditures of \$3,472,725, resulting in an increase to reserves of \$1,266,787.

REVENUE AND EXPENDITURES BY FUND - TYPE			
	REVENUE	EXPENSE	GAIN/(LOSS)
GENERAL FUND	1,218,587	906,532	312,055
ENTERPRISE FUNDS	2,804,769	2,122,598	682,171
SPECIAL REVENUE FUNDS	716,156	443,595	272,561
<b>TOTAL</b>	<b>4,739,512</b>	<b>3,472,725</b>	<b>1,266,787</b>

**Revenues:** The major funds of the City had revenues that were \$612,648 or 15% higher than estimated in the budget.

REVENUES BY FUND			
	BUDGET	ACTUAL	OVER/(UNDER)
GENERAL FUND	1,033,718	1,218,587	184,869
STREETS	298,300	299,367	1,067
SLESF	130,686	149,534	18,848
BUILDING FUND	35,131	118,419	83,288
SEWER	1,265,330	1,479,910	214,580
WATER	1,214,863	1,324,859	109,996
<b>TOTAL</b>	<b>3,978,028</b>	<b>4,590,676</b>	<b>612,648</b>

**Expenditures:** The major funds shown in the following table ended the year under budget by \$1,296,660 or 27%.

EXPENDITURES BY FUND			
	BUDGET	ACTUAL	OVER/(UNDER)
GENERAL FUND	1,405,914	906,532	(499,382)
STREETS	300,572	240,199	(60,373)
SLESF	120,604	120,604	-
BUILDING FUND	54,931	33,422	(21,509)
SEWER	1,728,534	1,179,408	(549,126)
WATER	1,109,460	943,190	(166,270)
<b>TOTAL</b>	<b>4,720,015</b>	<b>3,423,355</b>	<b>(1,296,660)</b>

**Fund Balances:** Overall total ending fund balances were \$6.52 million an increase of \$1.27 million. The table below shows the changes and fund balances by fund.

Fund Description	Fund #	Actual Ending Fund Balance		Beginning Fund Balance
		6/30/19	Change	
				7/1/18

<b>General Fund</b>	<b>000</b>	<b>1,949,047</b>	<b>312,055</b>	<b>1,636,992</b>
<b>Special Revenue Funds</b>				
Economic Development	003	-	-	-
Admin Fund	005	12,692	1,473	11,219
Building Fund	008	98,771	84,997	13,774
CDBG RRLF Fund	039	177,005	95,200	81,805
Measure Z Fund	044	(495)	(86)	(409)
Recycling Fund	074	24,600	5,241	19,359
Parks Fund	015	17,850	205	17,645
Realignment Grant Fund	046	3,486	75	3,411
SLESF Fund	040	70,740	28,930	41,810
Vehicle Abatement Fund	043	2,632	27	2,605
Solid Waste Fund	027	39,973	(2,669)	42,642
Gas Tax Fund (HUTA)	020	142,836	(46,686)	189,522
SB1 (RMRA) Fund	021	69,513	69,513	-
TDA Fund	024	69,702	24,490	45,212
RSTP Fund	026	14,314	11,851	2,463
<b>Total Special Revenue Funds</b>		<b>743,619</b>	<b>272,561</b>	<b>471,058</b>
<b>Sewer Enterprise Fund</b>				
Sewer Capital Fund	052	1,117,947	100,735	1,017,212
Sewer Debt Svc Fund	054	47,574	37,198	10,376
Sewer Restricted Reserve	054	302,822	-	302,822
Sewer Operations Fund	050	537,865	162,569	375,296
<b>Total Sewer Enterprise Fund</b>		<b>2,006,208</b>	<b>300,502</b>	<b>1,705,706</b>
<b>Water Enterprise Fund</b>				
Water Capital Fund	062	752,143	65,282	686,861
Water Metro Wells Fund	063	28,954	8,572	20,382
Water Dinsmore Zone	064	47,786	19,859	27,927
Water Debt Svc Fund	061	165,159	(21,786)	186,945
Water Restricted Reserve	061	109,839	96,239	13,600
Water Operations Fund	060	716,105	213,503	502,602
<b>Total Water Enterprise Fund</b>		<b>1,819,986</b>	<b>381,669</b>	<b>1,438,317</b>
<b>Total All Funds</b>		<b>6,518,860</b>	<b>1,266,787</b>	<b>5,252,073</b>

# ANNUAL FINANCIAL REPORT

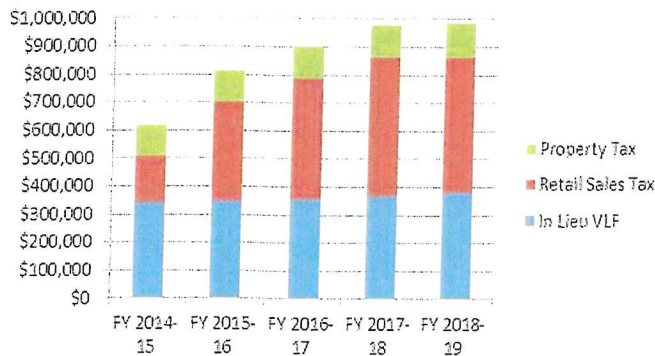
Year End FY 2018-19

## GENERAL FUND

At the end of FY 2018-19 General Fund revenues were \$1.2 million, which was 18% above budgetary estimates. Actual General Fund expenditures were \$906,532, which was 36% below budgeted appropriations.

**Revenues:** The top three revenue sources in the General Fund are Property Tax In Lieu of Vehicle License Fees, Retail Sales Tax and Property Tax. Actual amounts for these revenue sources were \$5,825 or only 0.6% more than the previous year.

General Fund Major Revenues



General Fund revenues were \$184,869 more than budgeted amounts. This was primarily due to Sales Tax and Cannabis revenues. Overall General Fund revenues were \$40,900 more than prior year actuals.

GENERAL FUND REVENUES	BUDGET	ACTUAL	VARIANCE
Property Tax In Lieu VLF	361,536	382,576	21,040
Local Sales Tax Measure U	245,000	285,708	40,708
Sales Tax	139,143	197,781	58,638
Property Tax	124,421	119,582	(4,839)
Franchise Fees	94,182	88,045	(6,137)
Cannabis	-	46,581	46,581
Transient Occupancy Tax	13,152	9,328	(3,824)
Other Revenues	56,284	88,986	32,702
<b>TOTAL</b>	<b>1,033,718</b>	<b>1,218,587</b>	<b>184,869</b>

**Expenditures:** General Fund expenditures were \$524,181 or 36% less than budgeted. Savings were primarily due to lower salary and software

expenses in the Police department and less spending on capital projects.

GENERAL FUND EXPENDITURES	ADJUSTED BUDGET	ACTUAL	VARIANCE
City Council	17,756	13,142	4,614
City Manager	88,026	84,078	3,948
Finance	98,307	89,128	9,179
General Government	58,605	37,226	21,379
Planning	62,172	58,521	3,651
Police	846,845	450,024	396,821
Buildings and Grounds	26,685	22,776	3,909
Transfers	23,300	14,752	8,548
Capital Projects	209,017	136,885	72,132
<b>TOTAL</b>	<b>1,430,713</b>	<b>906,532</b>	<b>524,181</b>

**Fund Balance:** The General Fund ended the fiscal year with a fund balance of \$1,949,047. This was an increase of \$312,055 due to actual revenues exceeding expenditures. At the time of the FY 2019-20 budget development the year-end fund balance was projected to be \$1.8 million. The FY 2018-19 actual ending balance was \$98,047 higher than estimated.

## STREETS FUNDS

**Revenues:** Streets funds revenues were below budgeted amounts in the Gas Tax fund. This was primarily due to a complex distribution formula used by the State that made it difficult to estimate revenues. Fortunately legislative changes have simplified the formulas and incorporated a growth factor so for next fiscal year estimates should be more accurate and revenues should increase. Overall revenues were on target due to higher SB1 revenue.

STREETS REVENUES	BUDGET	ACTUAL	VARIANCE
020 GAS TAX	94,168	77,518	(16,650)
021 SB1 RMRA	57,241	69,513	12,272
024 TDA	124,891	125,624	733
026 RSTP	22,000	26,712	4,712
<b>TOTAL</b>	<b>298,300</b>	<b>299,367</b>	<b>1,067</b>

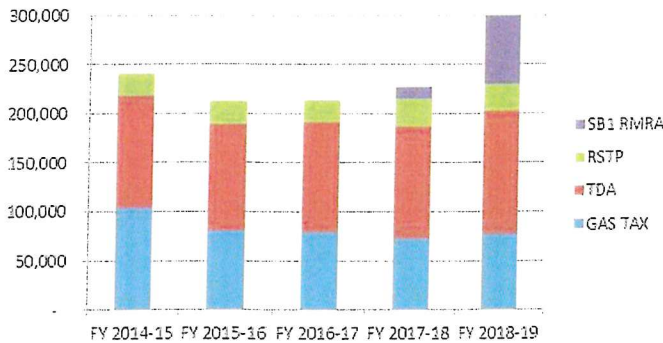
Overall Streets revenues were declining through FY 2016-17. The Road Repair and Accountability

# ANNUAL FINANCIAL REPORT

Year End FY 2018-19

Act of 2017 increased taxes on fuel and vehicle registration and added annual inflationary adjustments to new and existing gas taxes. The new SB1 RMRA revenues provide funding for local streets and roads projects and are allocated to cities on a per capita basis.

Streets Revenues



**Expenditures:** Actual expenditures were 20% below budget in the Streets funds. This was primarily due to salary savings, limited equipment purchases and overall reduced expenditures in the TDA fund.

STREETS EXPENDITURES	BUDGET	ACTUAL	VARIANCE
020 GAS TAX	151,477	124,204	27,273
021 SB1 RMRA	-	-	-
024 TDA	126,810	101,134	25,676
026 RSTP	22,285	14,861	7,424
<b>TOTAL</b>	<b>300,572</b>	<b>240,199</b>	<b>60,373</b>

**Fund Balances:** Total overall Streets fund reserves increased by \$84,600. The Gas Tax fund ending balance was lower than estimated due to SB1 revenue originally being included in that fund.

STREETS FUND BALANCES	ESTIMATE	ACTUAL	VARIANCE
020 GAS TAX	164,135	142,836	(21,299)
021 SB1 RMRA	-	69,513	69,513
024 TDA	45,169	69,703	24,534
026 RSTP	2,462	14,314	11,852
<b>TOTAL</b>	<b>211,766</b>	<b>296,366</b>	<b>84,600</b>

## ENTERPRISE FUNDS

### SEWER FUNDS

**Revenues:** The Sewer funds total revenues were \$1,479,910. This amount was spread between Operations (67%), Capital (11%) and Debt Service (23%). The total amounts include all fees, charges, penalties and new connections for sewer service. Actual revenues were 20% more than estimated in the budget primarily due to unanticipated connection charges for a new multi-unit housing project.

SEWER REVENUES	BUDGET	ACTUAL	VARIANCE
050 SEWER OPERATIONS	831,855	984,695	152,840
052 SEWER CAPITAL	102,076	159,027	56,951
053 SEWER ASSESSMENT	28,500	2,107	(26,393)
054 SEWER DEBT SVC.	302,899	334,081	31,182
<b>TOTAL</b>	<b>1,265,330</b>	<b>1,479,910</b>	<b>214,580</b>

**Expenditures:** Total Sewer expenditures were \$1,179,408 which was \$549,126 or 32% less than budgeted. The largest variance was due to lower spending on capital projects.

SEWER FUND EXPENSES	BUDGET	ACTUAL	VARIANCE
050 SEWER OPERATIONS	944,310	824,233	120,077
052 SEWER CAPITAL	481,325	226,388	254,937
054 SEWER DEBT SVC.	302,899	128,787	174,112
<b>TOTAL</b>	<b>1,728,534</b>	<b>1,179,408</b>	<b>549,126</b>

**Fund Balances:** As shown below actual ending fund balances (excluding restricted reserves) were \$401,266 or 31% more than estimated at the time of the FY 2019-20 budget development. Most of this increase was due to a one-time prior year accounting adjustment.

SEWER FUND BALANCES	ESTIMATE	ACTUAL	VARIANCE
050 SEWER OPERATIONS	547,412	537,865	(9,547)
052 SEWER CAPITAL	241,809	1,117,947	876,138
054 SEWER DEBT SVC.	512,899	47,574	(465,325)
<b>TOTAL</b>	<b>1,302,120</b>	<b>1,703,386</b>	<b>401,266</b>

# ANNUAL FINANCIAL REPORT

Year End FY 2018-19

## WATER FUNDS

**Revenues:** Total actual revenues for the Water funds were \$1,324,859 compared to budgeted amounts of \$1,214,863.

WATER REVENUES	BUDGET	ACTUAL	VARIANCE
060 WATER OPERATIONS	798,119	883,139	85,020
061 WATER DEBT SVC.	207,383	211,431	4,048
062 WATER CAPITAL	169,561	190,643	21,082
063 METRO WELLS	17,291	17,752	461
064 DINSMORE ZONE	22,509	21,894	(615)
<b>TOTAL</b>	<b>1,214,863</b>	<b>1,324,859</b>	<b>109,996</b>

**Expenditures:** Total Water expenditures were \$943,190 which was \$166,270 or 15% less than budgeted. The variance was primarily due to lower spending on infrastructure, services and supplies.

WATER EXPENDITURES	BUDGET	ACTUAL	VARIANCE
060 WATER OPERATIONS	763,809	669,636	94,173
061 WATER DEBT SVC.	136,000	136,978	(978)
062 WATER CAPITAL	184,400	125,361	59,039
063 METRO WELLS	22,700	9,180	13,520
064 DINSMORE ZONE	2,551	2,035	516
<b>TOTAL</b>	<b>1,109,460</b>	<b>943,190</b>	<b>166,270</b>

**Fund Balances:** As shown below actual ending fund balances (excluding restricted reserves) were slightly higher than estimated for the Water funds at the time of the FY 2019-20 budget development.

WATER FUND BALANCES	ESTIMATE	ACTUAL	VARIANCE
060 WATER OPERATIONS	686,839	716,105	29,266
061 WATER DEBT SVC.	155,337	165,159	9,822
062 WATER CAPITAL	724,664	752,143	27,479
063 METRO WELLS	29,865	28,954	(911)
064 DINSMORE ZONE	47,297	47,786	489
<b>TOTAL</b>	<b>1,644,002</b>	<b>1,710,147</b>	<b>66,145</b>

## OTHER FUNDS

The following section is a summary of budgeted revenues and expenditures versus actual for other significant special revenue funds.

### BUILDING FUND

Budgeted revenues were \$36,631 and appropriations were \$54,931. A General Fund transfer of \$18,300 was approved in the FY 2018-19 to balance the budget. Actual revenues were \$81,788 more than estimated primarily due to cannabis activity and advance revenues received for a new multi-unit housing project. The ending fund balance in the Building fund was \$98,771 it is anticipated that most of these funds will be expended in FY 2019-20 on inspection services. This is the first time since the Building fund was established that annual revenues exceeded expenditures.

BUILDING FUND	BUDGET	ACTUAL	VARIANCE
REVENUES	36,631	118,419	81,788
EXPENDITURES	54,931	51,722	3,209
<b>TOTAL</b>	<b>(18,300)</b>	<b>66,697</b>	<b>84,997</b>

**SLESF:** The Supplemental Law Enforcement Services Fund (SLESF) can only be used to supplement law enforcement services and has mainly been used to cover salary and benefit costs for a police officer position. In FY 2018-19 the City received \$149,534 in revenues and expended \$120,604. The City of Rio Dell is entitled to receive the minimum grant of \$100,000 in recent years additional "growth" revenue has been received.

**CDBG:** In FY 2018-19 CDBG actual revenues were \$100,373 and expenditures were \$5,173 resulting in an increase to the fund balance of \$95,199 and an ending fund balance of \$137,035. These funds are available for eligible CDBG projects.


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675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532



**For Meeting of: December 3, 2019**

To: City Council

From: Kevin Caldwell, Community Development Director 

Through: Kyle Knopp, City Manager

Date: November 26, 2019

Subject: Adoption of Resolution No. 1440-2019 Authorizing Application for, and Receipt of SB 2 Planning Grants Program Funds.

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**Recommendation:**

That the City Council:

1. Adopt Resolution No. 1440-2019 Authorizing Application for, and Receipt of SB 2 Planning Grants Program Funds.

**Discussion**

The City was recently contacted by PLACEWORKS, a consulting firm working with the California Department of Housing and Community Development (HCD) in administering SB 2 Planning Grant funds. The purpose of SB 2 is to provide funding and technical assistance to all local governments in California to help cities and counties prepare, adopt, and implement plans and process improvements that streamline housing approvals and accelerate housing production.

Funding is intended to help cities and counties:

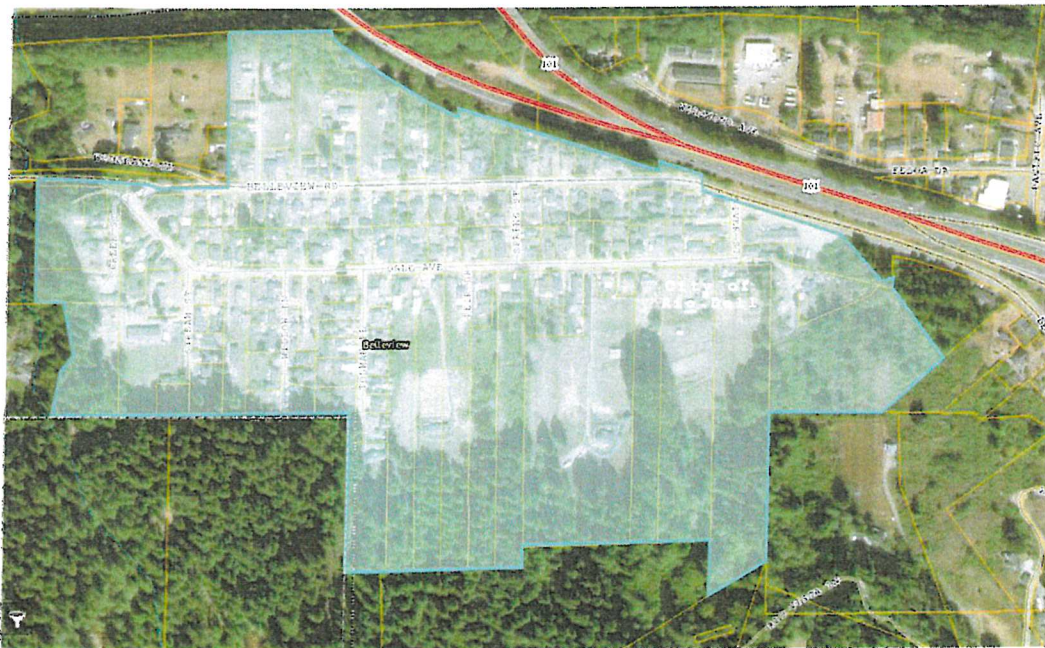
- Accelerate housing production
- Streamline the approval of housing development affordable to owner and renter households at all income levels
- Facilitate housing affordability, particularly for lower- and moderate-income households
- Promote development consistent with the State Planning Priorities (Government Code Section 65041.1)

- Ensure geographic equity in the distribution and expenditure of the funds

SB 2 Planning Grant funds are over-the-counter, non-competitive funds. The City could qualify for \$160,000 if the application is approved.

Staff has worked with PLACEWORKS is identifying a project that could facilitate additional housing opportunities in the City. As the Council is aware most of the available land for residential development is north of Davis Street and east of Highway 101. However, there is choke point in the City's sewer transmission facilities within the painter Street sewer line. This areas sewer transmission capacity is limited in the winter months during extreme rain events due to significant amounts of inflow and infiltration (I/I). The Painter Street line has experienced two Sanitary Sewer Overflows (SSO's) within the last five years during significant rain events when the ground was completely saturated. Staff believes the Belleview/Ogle neighborhood is a significant source of the I/I in this area of the collection system.

There are approximately 160 residences in the Belleview/Ogle neighborhood. Below is a copy of the proposed project description.



Belleview/Ogle Neighborhood

*The City has available land to increase housing opportunities, but the City also has some development constraints at this time. Most of the available land is north of Davis Street. This areas sewer transmission capacity is limited in the winter months during extreme rain events due to significant amounts of inflow and infiltration (I/I). The Painter Street line has experienced two Sanitary Sewer Overflows (SSO's) within the last five years during significant rain events when the ground was completely saturated.*



*In order to facilitate additional housing opportunities, it's imperative that the City address the I/I problems the City is currently experiencing during heavy rain events. Staff believes the Belleview/Ogle neighborhood is a significant source of the I/I in this area of the collection system.*

*The City recommends the following tasks in order to ultimately reduce the I/I problem.*

*1. Sewer Lateral Survey: The City would either hire a third party or additional staff members to perform sewer lateral and transmission line surveys. Tasks include one or more of the following:*

- *Verify clean-out at property lines;*
- *Smoke Test existing sewer mains;*
- *Air Test or water test private sewer laterals;*
- *Camera Inspection and evaluation of sewer mains and laterals to identify size, type and condition the mains and laterals;*
- *Rank the condition of the lateral;*
- *Develop a database with the information;*
- *Contact property owners to require that missing cleanouts be installed and deteriorated/dilapidated laterals repaired or replaced.*

*The City intends on working with the California Department of Housing and Community Development (HCD) in requesting a Supplemental Activity to utilize Program Income or other Community Development Block Grant (CDBG) funds to help those property owners who qualify for financial assistance to repair or replace their laterals.*

*Reducing the I/I problem could allow the City to redesignate approximately 65 acres from Suburban Low (S), one unit per acre to Urban Residential (UR), 7-10 units per acre and about 5 acres to Residential Multifamily (RM), 15 units per acre. In addition, staff will also recommend that the City increase the density in the Residential Multifamily (RM) to up to 30 units per acre.*

*The increased densities theoretically could result in additional 585+/- single family units, not including second or accessory dwelling units in the UR designation. In addition, the additional lands redesignated from Suburban Low (S) to Residential Multifamily (RM) could result in an additional 150 units.*

The City believes the study will cost about \$160,000. The deadline for submitting the application was recently extended to December 20, 2019.

**Attachment 1:** Resolution No. 1440-2019 Authorizing Application for, and Receipt of SB 2 Planning Grants Program Funds.

## RESOLUTION NO. 1440-2019



### A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIO DELL AUTHORIZING APPLICATION FOR, AND RECEIPT OF, SB 2 PLANNING GRANTS PROGRAM FUNDS

**WHEREAS**, the State of California, Department of Housing and Community Development (Department) has issued a Notice of Funding Availability (NOFA) dated **March 28, 2019**, for its Planning Grants Program (PGP); and

**WHEREAS**, the City Council of the City of Rio Dell desires to submit a project application for the PGP program to accelerate the production of housing and will submit a 2019 PGP grant application as described in the Planning Grants Program NOFA and SB 2 Planning Grants Program Guidelines released by the Department for the PGP Program; and

**WHEREAS**, the Department is authorized to provide up to **\$123 million** under the SB 2 Planning Grants Program from the Building Homes and Jobs Trust Fund for assistance to Counties (as described in Health and Safety Code section 50470 et seq. (Chapter 364, Statutes of 2017 (SB 2)) related to the PGP Program.

**NOW, THEREFORE**, the City Council of the City of Rio Dell resolves as follows:

**SECTION 1.** The City Council is hereby authorizes and directs staff to apply for and submit to the Department the 2019 Planning Grants Program application in the amount of \$160,000.

**SECTION 2.** In connection with the PGP grant, if the application is approved by the Department, the City Manager is authorized to enter into, execute, and deliver a State of California Agreement (Standard Agreement) for the amount of \$160,000 and any and all other documents required or deemed necessary or appropriate to evidence and secure the PGP grant, the City's obligations related thereto, and all amendments thereto (collectively, the "PGP Grant Documents").

**SECTION 3.** The City shall be subject to the terms and conditions as specified in the Standard Agreement, the SB 2 Planning Grants Program Guidelines, and any applicable PGP guidelines published by the Department. Funds are to be used for allowable expenditures as specifically identified in the Standard Agreement. The application in full is incorporated as part of the Standard Agreement. Any and all activities funded, information provided, and timelines

represented in the application will be enforceable through the executed Standard Agreement. The City Council hereby agrees to use the funds for eligible uses in the manner presented in the application as approved by the Department and in accordance with the Planning Grants NOFA, the Planning Grants Program Guidelines, and 2019 Planning Grants Program Application.

**SECTION 4.** The City Manager is authorized to execute the City of Rio Dell Planning Grants Program application, the PGP Grant Documents, and any amendments thereto, on behalf of the City as required by the Department for receipt of the PGP Grant.

**I HEREBY CERTIFY** that the forgoing Resolution was PASSED and ADOPTED at a regular meeting of the City Council of the City of Rio Dell on December 3, 2019 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

---

Mayor Debra Garnes

ATTEST:

I, Karen Dunham, City Clerk for the City of Rio Dell, State of California, hereby certify the above and foregoing to be a full, true and correct copy of Resolution No. 1440-2019 adopted by the City Council of the City of Rio Dell on December 3, 2019.

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Karen Dunham, City Clerk, City of Rio Dell

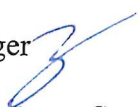


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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 3, 2019

TO: Rio Dell City Council

FROM: Kyle Knopp, City Manager 

SUBJECT: Letter from Nuisance Advisory Committee Endorsing Universal Pickup as a Concept

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Provide direction to staff, if any.

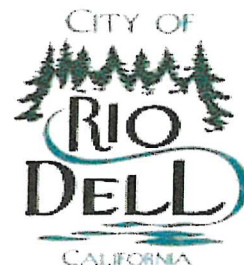
The Council could choose to request a presentation from Recology Eel River on Universal Pickup.

BACKGROUND AND DISCUSSION

The Nuisance Advisory Committee (NAC) received a presentation on September 18, 2019 from Recology Eel River on the concept of universal pickup, or mandatory garbage service. The NAC requested a letter be drafted for the City Council endorsing the concept of universal pickup as a method to help curb excessive garbage throughout town. The attached letter was approved on October 16, 2019 by a unanimous vote of members Woodall, Strahan, Bradford, Marks, Carter, Knopp, Conner and Caldwell.

At the time of the presentation specifics on Universal pickup were not available. Recology Eel River made it clear that in order for Universal Pickup to be economical, other local agencies would need to adopt a similar strategy – most notably the City of Fortuna. At this time, there is no update on the status of Fortuna's interest in Universal Pickup. If the Council would like additional information, it is recommended that the Council request a presentation on Universal Pickup.

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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

October 16, 2019

Debra Garnes, Mayor  
City of Rio Dell  
675 Wildwood Avenue  
Rio Dell, CA 95562


**RE: Nuisance Advisory Committee Endorsement of the Concept of Universal  
Garbage & Recycling Collection.**

Dear Mayor Garnes,

On Wednesday September 18, 2019 the Nuisance Advisory Committee (NAC) received a presentation from Recology Eel River on Universal Garbage & Recycling Collection services. The NAC was interested in universal collection from the perspective of illegal dumping and the existence of properties throughout town that have refuse or other bulky items that can create nuisance conditions. Preliminary figures show that waste collection subscriptions would rise from approximately 50% of households to nearly 100% of households.

The NAC has directed its Chair to issue this letter to the City Council of the City of Rio Dell endorsing the concept of universal garbage collection and further recommend that the City Council investigate its implementation.

Sincerely,



Kyle Knopp, Chair  
Nuisance Advisory Committee



---

*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 4, 2019

TO: Rio Dell City Council  
FROM: Kyle Knopp, City Manager *3*  
SUBJECT: Presentation on Solar Feasibility Study

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Provide direction to staff, if any.

If the Council wishes to proceed further with RCEA, direct staff to return with the attached Governing Board Resolution for adoption.

BACKGROUND AND DISCUSSION

The City has been working with RCEA

On May 6, 2003 the City Council authorized execution the RCEA Joint Powers Agreement (JPA) via Resolution No. 842-2003 and the City of Rio Dell has been a member ever since. RCEA was established to provide regional development and implementation of energy programs that reduce demand, increase efficiency and advance the use of renewable resources for the benefit of local residents, businesses and institutions.

RCEA has been authorized to implement a Public Agency Pilot Solar Program with the intended purpose of offsetting electrical load at public facilities. The program is supported by net revenue from the Community Choice Energy (CCE) program that Rio Dell joined via Ordinance No. 345-2016 on November 15, 2016. Because of these actions, Rio Dell (and other member agencies) will be given a priority for assistance that we would not otherwise receive.

On April 3, 2018 the Council authorized staff to sign a letter of intent to participate in the Public Agency Pilot Solar Program. City facilities have been reviewed for efficiency options and RCEA has replaced lighting in city facilities to modern LED's at no cost to the City.

The attached report was commissioned in order to explore two main solar options:

**Wastewater Treatment Plant:** Prior exploration of this project involved the demolition of the old wastewater treatment system to create a "solar field." However, that demolition has been replaced by a project to recycle the old wastewater plant for use in pre-treating water system

backwash from the filtration process prior to the water being introduced into the WWTP. The new solar concept involves placing a solar array directly above the WWTP itself, thereby reducing algae growth at the plant and improving its performance and environmental regulatory compliance – thereby accomplishing two important tasks with one project. The WWTP consumes large amounts of electricity and energy enhancements would be important to containing the cost of electricity and the potential implementation of an Ultraviolet disinfection system which would improve regulatory compliance and staff safety.

**City Hall Roof:** The City Hall roof could be an ideal location for a relatively straight-forward solar installation.

Attachments:

Solar Feasibility Study

Governing Board Resolution

Application for 1% interest rate loan

Rio Dell's letter of intent to participate in Public Agency Solar

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# REDWOOD COAST Energy Authority

Humboldt County • Arcata • Blue Lake • Eureka • Ferndale • Fortuna • Rio Dell • Trinidad • Humboldt Bay Municipal Water District

## Solar Feasibility Study

City of Rio Dell

November 2019



Author: Public Agency Solar Program



## Table of Contents

1	Executive Summary .....	5
2	Introduction .....	6
3	Electric Load Analysis.....	6
4	City Hall.....	7
4.1	Efficiency Opportunities: LED Lighting Upgrade.....	7
4.2	Solar Photovoltaic (PV) Site Analysis .....	7
4.3	Solar Photovoltaic (PV) System Size .....	8
4.4	Solar Photovoltaic (PV) System Costs.....	9
4.5	Solar PV Financial Analysis.....	9
5	Water Treatment Plant.....	9
5.1	Energy Efficiency Opportunities - WWTP Operations .....	11
5.2	Energy Efficiency Opportunities - WWTP Lighting .....	11
5.3	Solar Photovoltaic (PV) Site Analysis .....	11
5.4	Solar Photovoltaic (PV) System Size .....	13
5.5	Solar Photovoltaic (PV) System Cost .....	14
5.6	Utility Rate Analysis .....	15
6	Findings.....	15
6.1	Next Steps.....	16
Appendix A	A-6, E-19-S and E-19-R utility rates used for feasibility study .....	17
Appendix B	Assumptions and inputs used in RCEA’s solar PV system sizing.....	19
Appendix C	Assumptions and inputs used in RCEA’s financial analysis.....	20

## List of Tables

Table 1 Summary and comparison of Energy Conservation Measure options for the City of Rio Dell.....	5
Table 2 Detailed summary of the City of Rio Dell’s electric use by metered account. ....	6
Table 3 Summary of results of the LED lighting upgrade at Rio Dell City Hall.....	7
Table 4 Estimated costs for a 22.4 kW DC solar PV array at Rio Dell City Hall.....	9
Table 5 Cost and benefit analysis of a 22.4 kW DC solar PV project option at Rio Dell City Hall.....	9
Table 6 Estimated costs and potential savings from an LED lighting upgrade at Rio Dell's WWTP. ....	11
Table 7 Summary of solar PV array options at Rio Dell's WWTP. ....	13
Table 8 Estimated costs for a 342 kW DC solar PV installation at Rio Dell’s WWTP.....	14
Table 9 Estimate of savings from switching to an E-19-R rate at Rio Dell's WWTP. ....	15
Table 10 Summary of energy conservation measures for the City of Rio Dell's City Hall and WWTP. ....	16
Table 11 RCEA's and PG&E’s A-6 time-of-use electric rate schedule.....	17
Table 12 RCEA's and PG&E’s E-19-S electric rate schedule.....	17
Table 13 RCEA's and PG&E's E-19-R electric rate schedule.....	18
Table 14 Assumptions and inputs for PV system analysis for the City of Rio Dell. ....	19
Table 15 Assumptions and inputs for PV system analysis at Rio Dell's Wastewater Treatment Plant.....	19
Table 16 Assumptions and inputs for financial analysis of solar PV installation at City Hall. ....	20
Table 17 Assumptions and inputs for financial analysis of solar PV installation at the WWTP.....	20

# List of Figures

- Figure 1 Summary of electric charges at City of Rio Dell sites. ....6
- Figure 2 Available roof area for solar PV installation at Rio Dell City Hall. ....8
- Figure 3 Monthly solar PV output vs electric use for a 22.4 kW DC solar array at Rio Dell City Hall. ....8
- Figure 4 Electric consumption in kWh by time-of-use period and maximum demand at Rio Dell's WWTP..... 10
- Figure 5 Demand charges and kWh charges by time-of-use period at Rio Dell's WWTP. .... 10
- Figure 6 Parcel boundaries at Rio Dell Wastewater Treatment Plant..... 11
- Figure 7 Potential installation areas for solar PV carport installation at Rio Dell's WWTP. .... 12
- Figure 8 Examples of carport structures for mounting solar panels that could be used at Rio Dells WWTP. .... 13
- Figure 9 Estimated electric use and solar production at Rio Dell WWTP with a 342 kW DC solar installation. .... 14

## 1 Executive Summary

The City of Rio Dell is working with Redwood Coast Energy Authority's (RCEA's) Public Agency Solar Program (PASP). As part of that work, RCEA performed an analysis of the energy consumption, efficiency opportunities, and solar photovoltaic installation opportunities at two locations controlled by the City of Rio Dell: City Hall and the Wastewater Treatment Facility. While both projects would provide economic and environmental benefits to the City, the City Hall project option would provide the greatest economic benefits, with a simple payback period of less than 10 years. Rio Dell worked with RCEA to complete an LED lighting upgrade that will reduce electric use and costs at City Hall; City Hall could host a solar PV array that offsets the bulk of the remaining electric use at the site. A 22.4 kW DC array installed at Rio Dell City Hall could provide the following benefits:

- Offset of 81% of the site's annual electricity consumption
- Offset of 99% of the site's annual electricity bill
- A simple payback period of 9.6 years
- A Net Present Value of savings of almost \$80,000 *after loan re-payment*
- Greenhouse gas abatement of 37 metric tons of CO<sub>2</sub> equivalent over the life of the project

The Wastewater Treatment Plant (WWTP) could host a 342 kW DC solar installation; the project would require greater initial capital investment and would require just under 17 years to payback the initial investment, largely due to increased cost of installing carport canopy systems. The WWTP project could be paired with lighting efficiency upgrades at the plant that would improve the payback period if the projects were funded under one loan application. The WWTP project would benefit from changing from the E-19-S rate to the more solar friendly E-19-R electric rate. A 342 kW DC solar installation at the WWTP combined with an LED lighting upgrade and the E-19-R rate change could provide the following benefits:

- Offset of 71% of the site's annual electricity consumption
- Offset of 68% of the site's annual electricity bill
- A simple payback period of 16.6 years
- A Net Present Value of savings of almost \$450,000 *after loan re-payment*
- Greenhouse gas abatement of 644 metric tons of CO<sub>2</sub> equivalent over the life of the project

Table 1 below shows a comparison of the project options analyzed in this report.

*Table 1 Summary and comparison of Energy Conservation Measure options for the City of Rio Dell.*

Energy Conservation Measure	PV System Size (kW DC)	Estimated Project Cost (\$)	Estimated Rebate (\$)	Net Cost (\$)	Annual Energy Savings (kWh)	Annual Avoided Costs (\$)	Annual Bill Offset (%)	Simple Payback
Roof-Mounted Solar Array on City Hall	22.4	\$78,400	\$0	\$78,400	25,108	\$8,188	100%	9.6
Interior and Exterior Lighting Upgrades to LEDs at WWTP	-	\$13,810	\$2,803	\$11,008	13,646	\$2,403	2%	4.6
Roof-Mounted and Carport-Mounted Solar Arrays at the WWTP	342	\$1,475,000	\$0	\$1,475,000	442,460	\$83,728	66%	17.6
Rate Change from E-19-S to E-19-R	-	\$0	\$0	\$0	-	\$2,299	2%	-
<b>Totals</b>	<b>364.4</b>	<b>\$1,567,210</b>	<b>\$2,803</b>	<b>\$1,564,408</b>	<b>481,214</b>	<b>\$96,619</b>	<b>71%</b>	<b>16.2</b>

## 2 Introduction

RCEA began working with the City of Rio Dell as part of RCEA’s Public Agency Solar Program in May of 2018. After an initial kick-off meeting with city staff, RCEA began its analysis of the energy consumption, efficiency opportunities, and solar photovoltaic installation opportunities at two metered locations controlled by the City: City Hall and the City’s Wastewater Treatment Plant (WWTP).

## 3 Electric Load Analysis

RCEA performed an electric load analysis of Rio Dell’s electric consumption using utility data from the previous 12 months of use covering the period from September 2018 to August 2019. Rio Dell receives electric service from PG&E and is enrolled in RCEA’s Community Choice Aggregation program; City Hall is on an A-6 time-of-use rate, the WWTP is on an E-19-S rate. RCEA’s and PG&E’s electric rates, demand charges and time-of-use periods used throughout this analysis can be found in Appendix A of this document. Rio Dell’s electric charges are concentrated at the Wastewater Treatment Plant (64% of total annual bill), and at City Hall (4% of total annual bill). Several smaller gas and electric accounts make up the remainder of the City’s annual gas and electric bills. Table 2 below shows a summary of Rio Dell’s electric consumption.

Table 2 Detailed summary of the City of Rio Dell’s electric use by metered account.

Rio Dell Electricity Use Summary						
Site Name	Address	Rate	Total Annual Load (kWh)	Total Charges (\$)	Percent Charges (%)	Cost/kWh (\$)
City Hall	675 Wildwood Ave	HA6	30,940	\$8,199	4%	\$0.27
Wastewater Treatment Plant	475 Hilltop Drive	E19S	643,559	\$127,186	64%	\$0.20
All Other Gas and Electric Costs				\$62,631	32%	
<b>Totals</b>			<b>674,499</b>	<b>\$198,016</b>	<b>100%</b>	<b>\$0.20</b>

Figure 1 below shows a visual summary of Rio Dell’s annual electric bills across its nine metered locations.

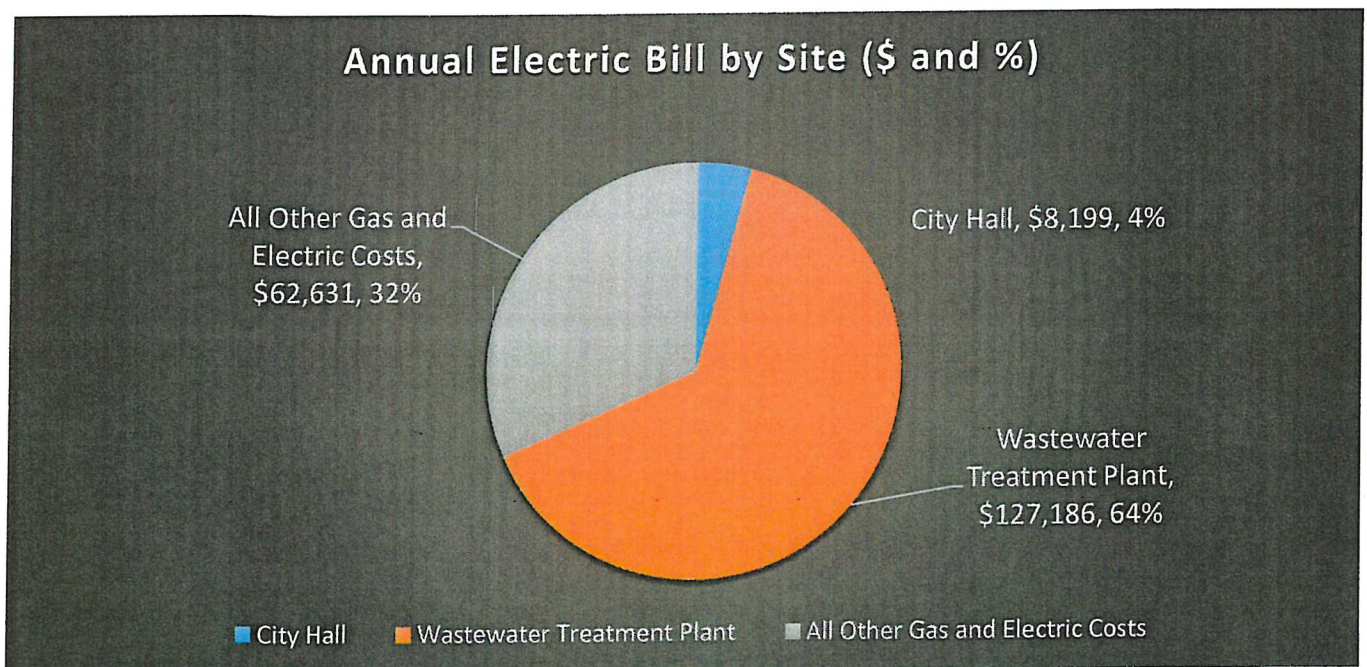


Figure 1 Summary of electric charges at City of Rio Dell sites.

## 4 City Hall

Rio Dell's City Hall is located at 675 Wildwood Avenue, Rio Dell CA, 95562. It is housed in a single-story building that has east and west facing roof areas that could host solar photovoltaic (PV) arrays. The total annual electric load for City Hall was 39,940 kWh, accounting for 4% of the electric load of all sites analyzed in this report; the annual cost of electricity at City Hall during the 12 months analyzed in this report was \$8,199.

### 4.1 Efficiency Opportunities: LED Lighting Upgrade

RCEA performed a lighting efficiency analysis at City Hall in August of 2018. The City of Rio Dell worked with RCEA's Energy Watch program to complete the lighting efficiency upgrade at City Hall later that same month. The City of Rio Dell should see energy and financial savings from this upgrade of the existing interior T-8 linear fluorescent lighting to linear LED lighting at City Hall. The exterior lighting has already been upgraded to high efficiency LED lighting, RCEA does not see opportunities for savings in this area. Table 3 below shows the decrease in electric use and costs at City Hall in the year after the LED lighting upgrade while the average cost of electricity has risen.

*Table 3 Summary of results of the LED lighting upgrade at Rio Dell City Hall.*

Electric Use Comparison Post Lighting Efficiency			
	2017-18	2018-19	Annual Difference (%)
Annual Electric Consumption (kWh)	33,021	30,940	-6%
Annual Electricity Cost (\$)	\$8,431	\$8,199	-3%
Average Electricity Rate (\$/kWh)	\$0.26	\$0.27	4%

### 4.2 Solar Photovoltaic (PV) Site Analysis

RCEA performed a detailed solar site analysis at Rio Dell City Hall on September 7, 2018. City Hall is housed in a single-story building with a 3-in-12 pitched roof covered in composition shingle; the main ridgeline runs north to south providing sections that face roughly due east and due west. The roof is in good condition and both the east and west facing sections could be utilized for installing a 22.4 kW DC solar array. A structural assessment of the roof could be performed by a licensed structural engineer to ensure the roof can handle the new load. A shading analysis was performed using a Solar Pathfinder tool, which showed that the total annual shading at this location is approximately 4%, making it a suitable solar installation location. California Fire Marshal guidance for solar PV installations require 4' setbacks from gable ends and ridges of the roof. After accounting for shading effects and Fire Marshal setbacks the available area for installation of a solar PV array would be approximately 2,000 square feet. Figure 2 below shows the available area for a solar PV installation on the roof of Rio Dell City Hall outlined in blue.

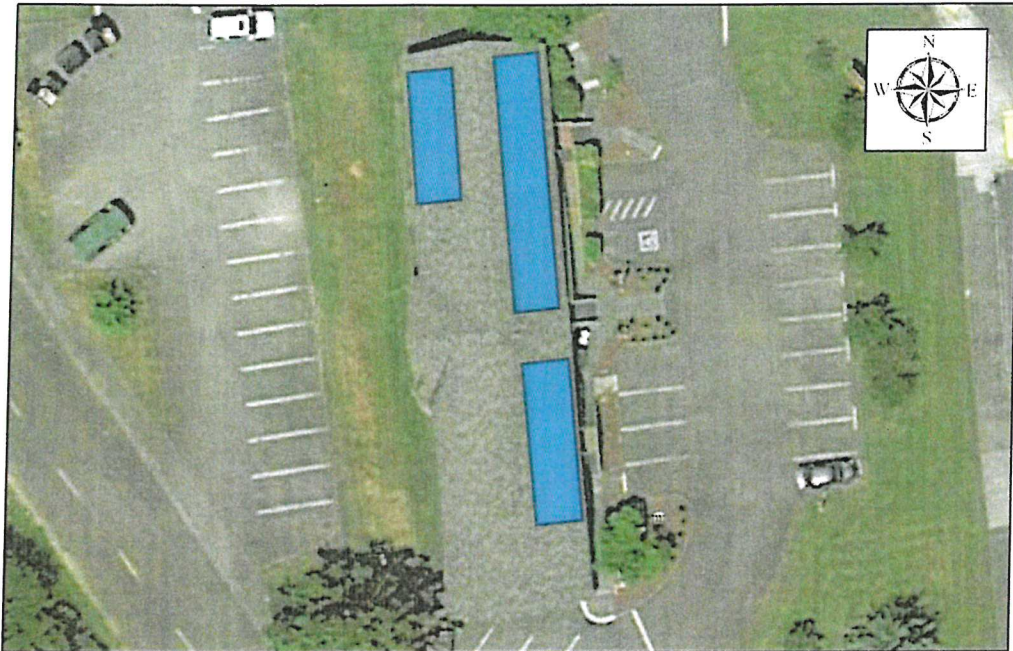


Figure 2 Available roof area for solar PV installation at Rio Dell City Hall.

### 4.3 Solar Photovoltaic (PV) System Size

RCEA estimates that a 22.4 kW DC PV array would offset approximately 81% of City Hall’s electric consumption and 99% of City Hall’s electric bills. Solar PV array’s can offset a higher percentage of electricity costs compared to the kilowatt hours (kWh) because they produce much of their power during the utility’s “peak” periods when the economic value of the kWh is the highest. The assumptions and inputs used in RCEA’s solar PV system sizing calculations can be found in **Appendix B** of this document. Figure 3 below shows the monthly electric usage and estimated solar PV production of a 22.4 kW DC solar array at Rio Dell City Hall.

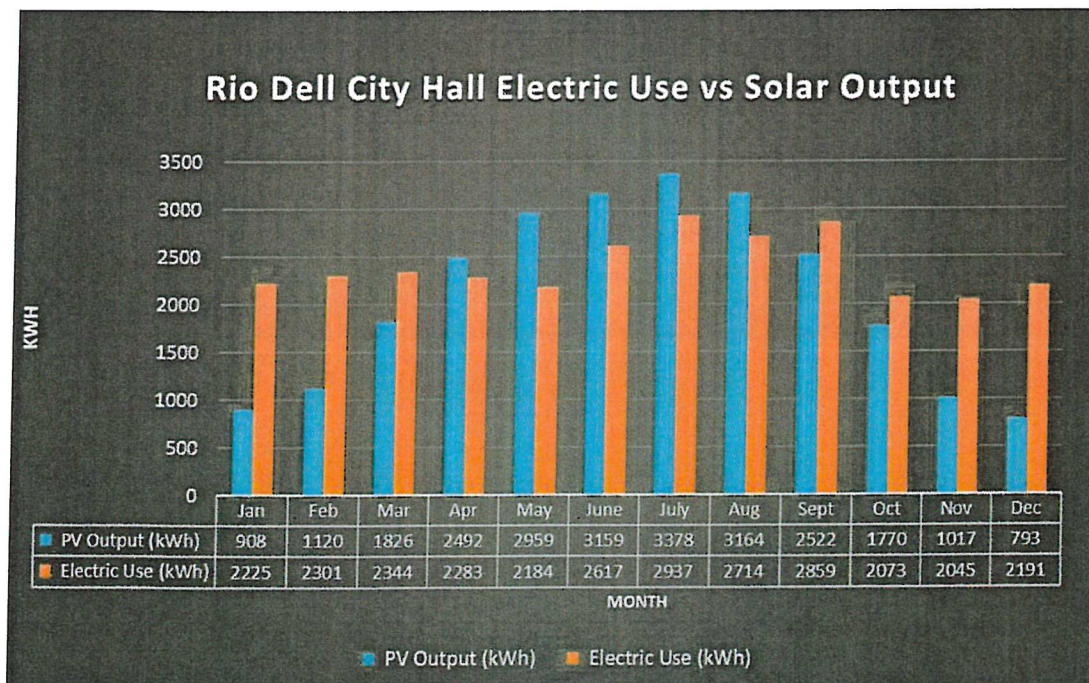


Figure 3 Monthly solar PV output vs electric use for a 22.4 kW DC solar array at Rio Dell City Hall.

#### 4.4 Solar Photovoltaic (PV) System Costs

RCEA’s has recent history with solar PV installations for public works projects in California’s Proposition 39 program. The average installed price of a roof-mounted solar PV system, including all labor, materials, engineering, permitting and design has been about \$3.50/DC watt. An average installed price of \$3.50/DC watt yields a system cost of approximately \$78,400; the system would generate about \$8,200/year in avoided energy costs and would have a simple payback period of 9.6 years. Table 4 below shows the estimated costs for a 22.4 kW DC solar PV installation at Rio Dell City Hall

*Table 4 Estimated costs for a 22.4 kW DC solar PV array at Rio Dell City Hall.*

PV System Cost Estimate	
PV Modules	\$19,600
Inverters	\$10,192
Electrical/Structural Balance of Systems	\$11,760
Labor	\$15,680
Engineering and Design	\$7,840
Permitting and Interconnection	\$2,352
Overhead and Profit	\$10,976
<b>Total Cost</b>	<b>\$78,400</b>

#### 4.5 Solar PV Financial Analysis

RCEA performed a financial analysis for the Rio Dell City Hall solar installation that estimates that the project would require an investment of approximately \$78,400, it would generate roughly \$8,200 in annual avoided energy costs and would have a simple payback period of about 9.6 years. Over the 25-year life of the project, the system would produce energy savings with a Net Present Value (NPV) of almost \$80,000. The assumptions that were used in RCEA’s financial analysis can be found in **Appendix C** of this document. Table 5 below shows a summary of RCEA’s economic analysis of a 22.4 kW DC solar PV array at Rio Dell City Hall.

*Table 5 Cost and benefit analysis of a 22.4 kW DC solar PV project option at Rio Dell City Hall.*

Rio Dell City Hall PV System Cost and Benefit Summary	
PV System Size (kW DC)	22.4
Annual Energy Production (kWh)	25,108
Estimated System Cost (\$)	\$78,400
First Year Bill Savings (\$)	\$8,188
Estimated Energy Offset from PV (%)	81%
Estimated Bill Offset from PV (%)	99%
Simple System Payback (Years)	9.6
NPV of Savings at 25 Years (\$)	\$84,809
Lifetime Avoided CO <sub>2</sub> emissions (Metric Tons)	35

### 5 Water Treatment Plant

The city of Rio Dell’s wastewater treatment plant (WWTP) is the city’s single largest electric load, consuming over 640,000 kilowatt hours (kWh) per year at a cost of roughly \$127,000 annually. It accounts for about 90% of the city’s total electric use and 64% of the city’s total annual gas and electric costs. The WWTP is on an E-19-S electric rate. RCEA’s and PG&E’s electric rates, demand charges and time-of-use periods used in the WWTP



analysis can be found in **Appendix A** of this document. Figure 4 below shows a summary of the WWTP's electric use by time-of-use period over the last 12 months.

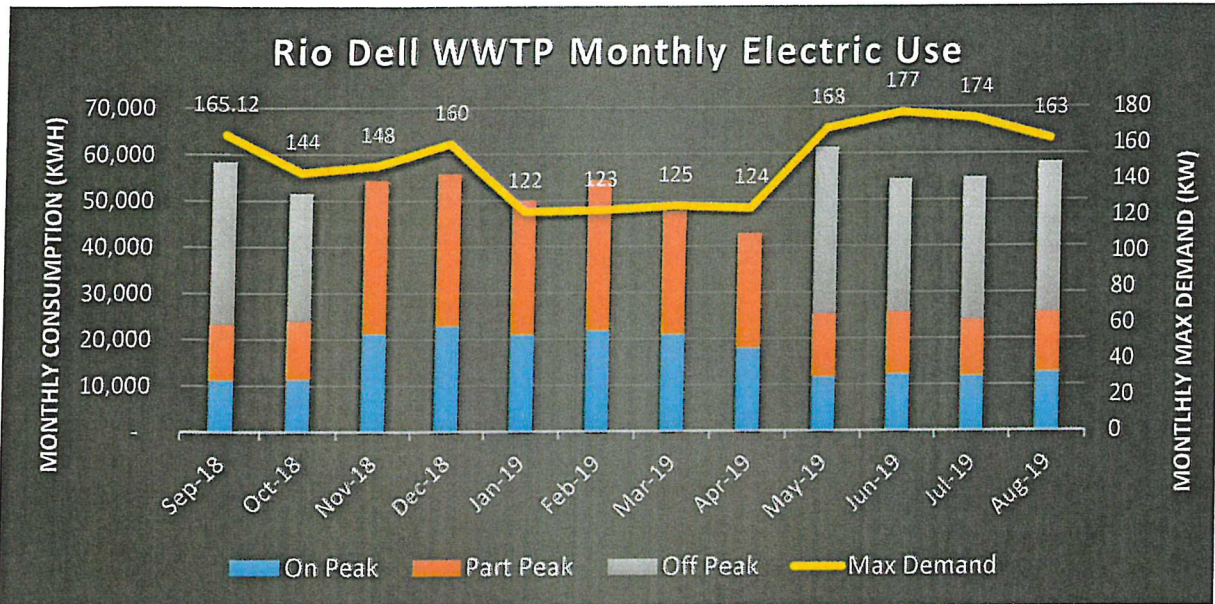


Figure 4 Electric consumption in kWh by time-of-use period and maximum demand at Rio Dell's WWTP

The E-19-S rate incorporates demand charges, based on the peak electric demand, and these charges make up a large portion of the WWTP electric charges. Figure 5 below shows a summary of the WWTP's annual electric charges for kWh and peak demand by time-of-use period.

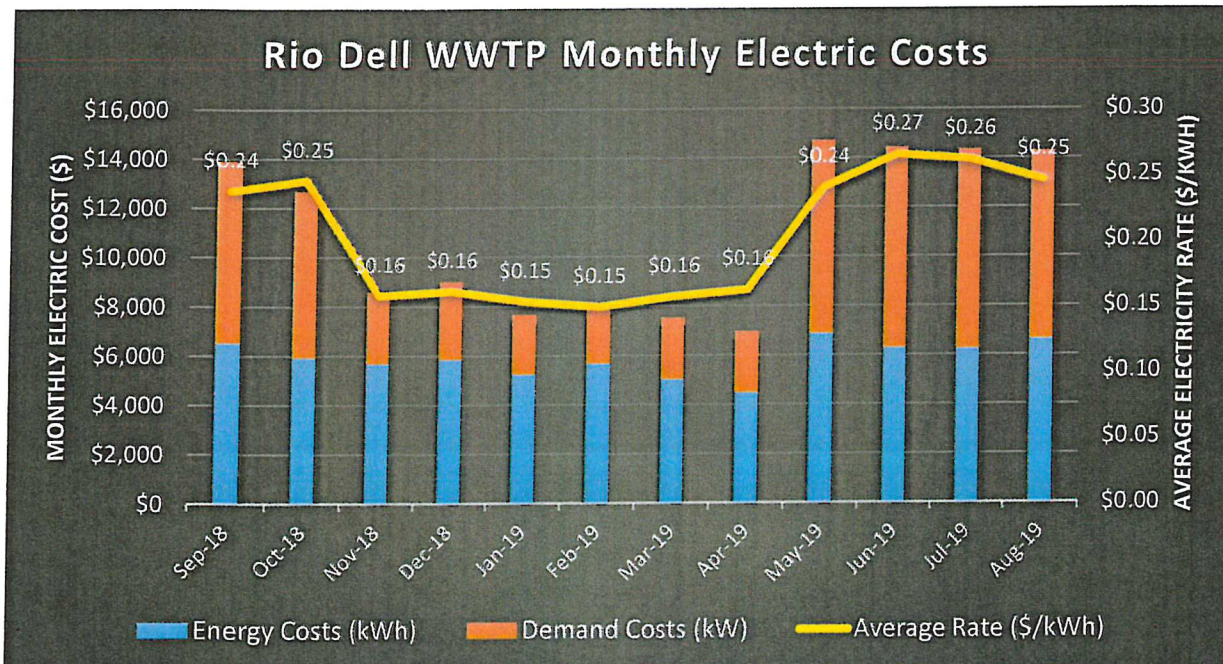


Figure 5 Demand charges and kWh charges by time-of-use period at Rio Dell's WWTP.

### 5.1 Energy Efficiency Opportunities - WWTP Operations

The City of Rio Dell and RCEA completed a detailed process to assess energy efficiency opportunities at the WWTP through PG&E’s Water Infrastructure System Efficiency (WISE) program in May of 2019. The City had recently made several efficiency upgrades at the WWTP including upgrades to their blower motors and the addition of dissolved oxygen sensors on their second stage aeration process. The WISE assessment process did not reveal any additional efficiency measures for the WWTP operations.

### 5.2 Energy Efficiency Opportunities - WWTP Lighting

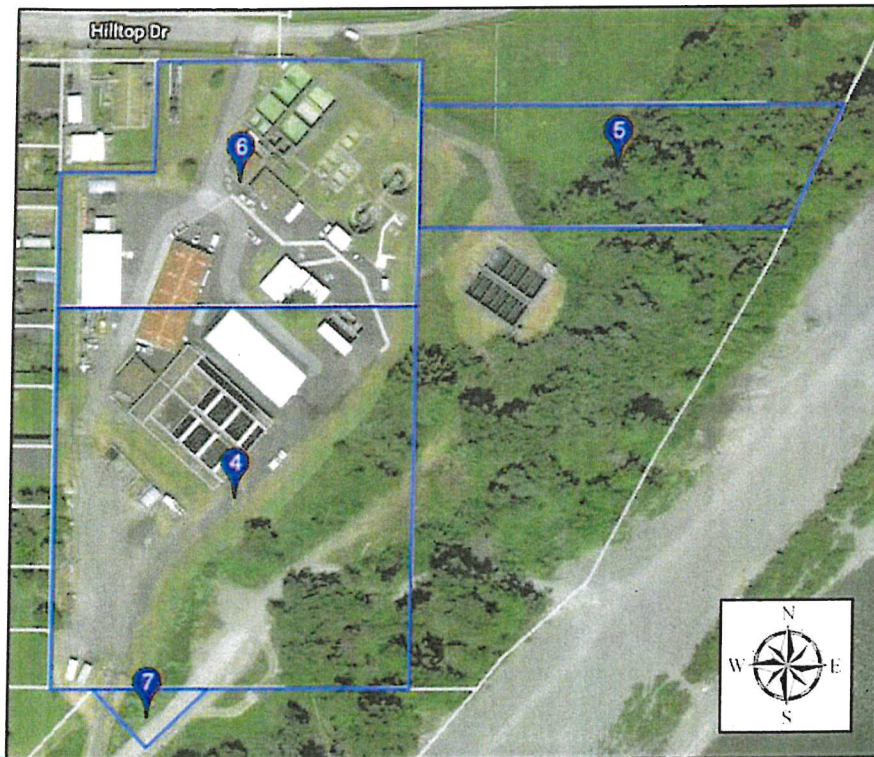
The City of Rio Dell could see energy and financial savings from upgrading the existing interior T-8 linear fluorescents to linear LED lighting and upgrading the existing exterior pole and wall mounted lighting to new LED fixtures. RCEA estimates that such an LED lighting upgrade could save roughly 2% of the energy use at the WWTP that would result in an estimated \$2,400 in annual avoided energy costs. Table 6 below shows a summary of the potential LED lighting upgrade at Rio Dell’s WWTP.

*Table 6 Estimated costs and potential savings from an LED lighting upgrade at Rio Dell’s WWTP.*

Energy Conservation Measure	Estimated Project Cost (\$)	Estimated Rebate (\$)	Net Cost (\$)	Annual Energy Savings (kWh)	Annual Avoided Costs (\$)	Annual Bill Offset (%)	Simple Payback
Interior T8 fluorescents to LEDs	\$810	\$203	\$608	2,067	\$364	0.3%	1.7
Exterior lighting fixtures to LEDs	\$13,000	\$2,600	\$10,400	11,578	\$2,039	1.6%	5.1
<b>Totals</b>	<b>\$13,810</b>	<b>\$2,803</b>	<b>\$11,008</b>	<b>13,646</b>	<b>\$2,403</b>	<b>2%</b>	<b>4.6</b>

### 5.3 Solar Photovoltaic (PV) Site Analysis

RCEA performed a solar site analysis at Rio Dell’s WTP on September 7, 2018. The WWTP is located at 475 Hilltop Drive. It occupies all or part of four parcels; Figure 6 below shows the extent of the four parcels that house Rio Dell’s WWTP.



*Figure 6 Parcel boundaries at Rio Dell Wastewater Treatment Plant.*

RCEA identified several potential locations where solar photovoltaic (PV) arrays could be installed at Rio Dell's WWTP:

- Roof-mounted solar PV arrays could be installed on two (2) buildings at the WWTP:
  - The Maintenance/Service Building roof
  - The Water Treatment Building roof
- Carport-mounted solar PV arrays could be installed at three (3) locations at the WWTP site:
  - Above the current treatment facility,
  - Above the old treatment facility,
  - At the open space to the east of the old treatment facility.

Roof-mounted solar arrays are the lowest cost option for installing at the WWTP because the structures already exist. In RCEA's experience with public works solar projects, the average installed price of a roof mounted solar PV system, including all labor, materials, engineering, permitting and design has been about \$3.50/DC watt. Carport-mounted solar arrays typically cost more than roof-mounted arrays due to the costs of the mounting structure, RCEA estimates that the installed cost for a carport-mounted array would be about \$4.50/DC watt. Installing solar panels above the current treatment facility could deliver added benefits of lowering the water temperature of the treatment facility and discouraging algae growth. The largest area for installing a solar array would be the open space to the east of the old treatment area. All three spaces could be utilized by installing on prefabricated carport structures. Figure 7 below shows the potential area for installation of solar PV arrays outlined in blue, Figure 8 shows examples of commercially available solar carport structures.

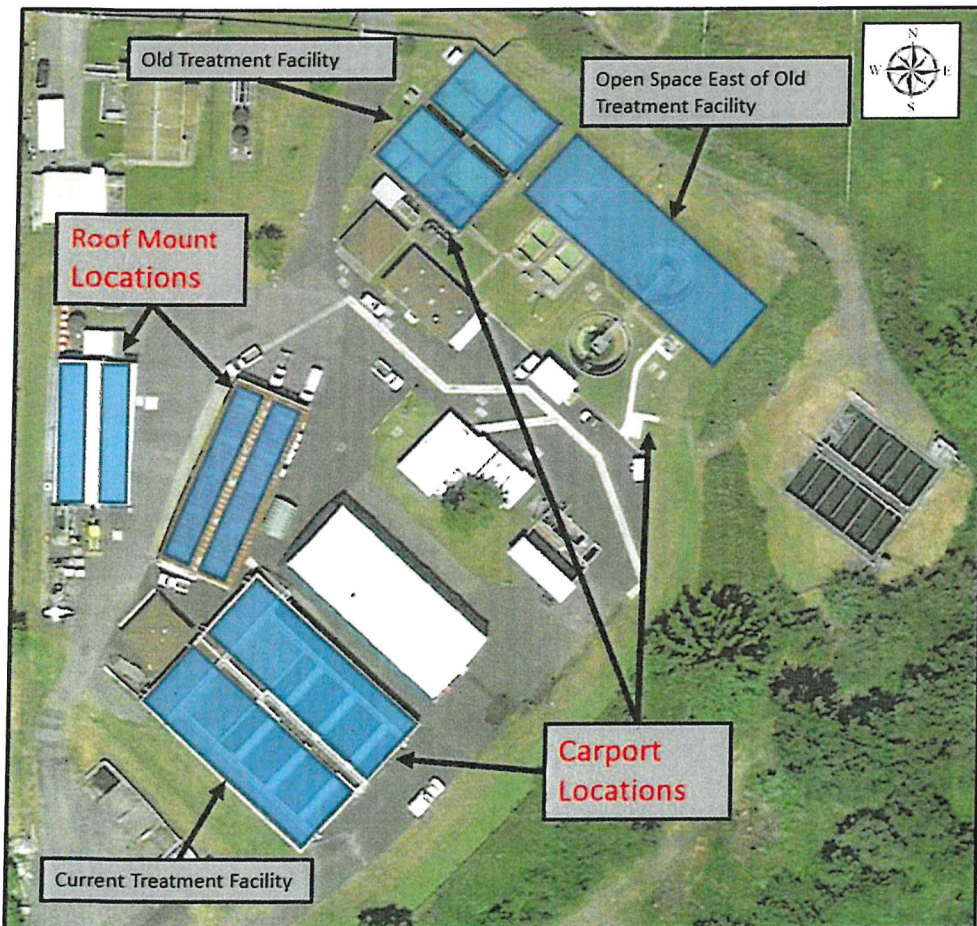


Figure 7 Potential installation areas for solar PV carport installation at Rio Dell's WWTP.

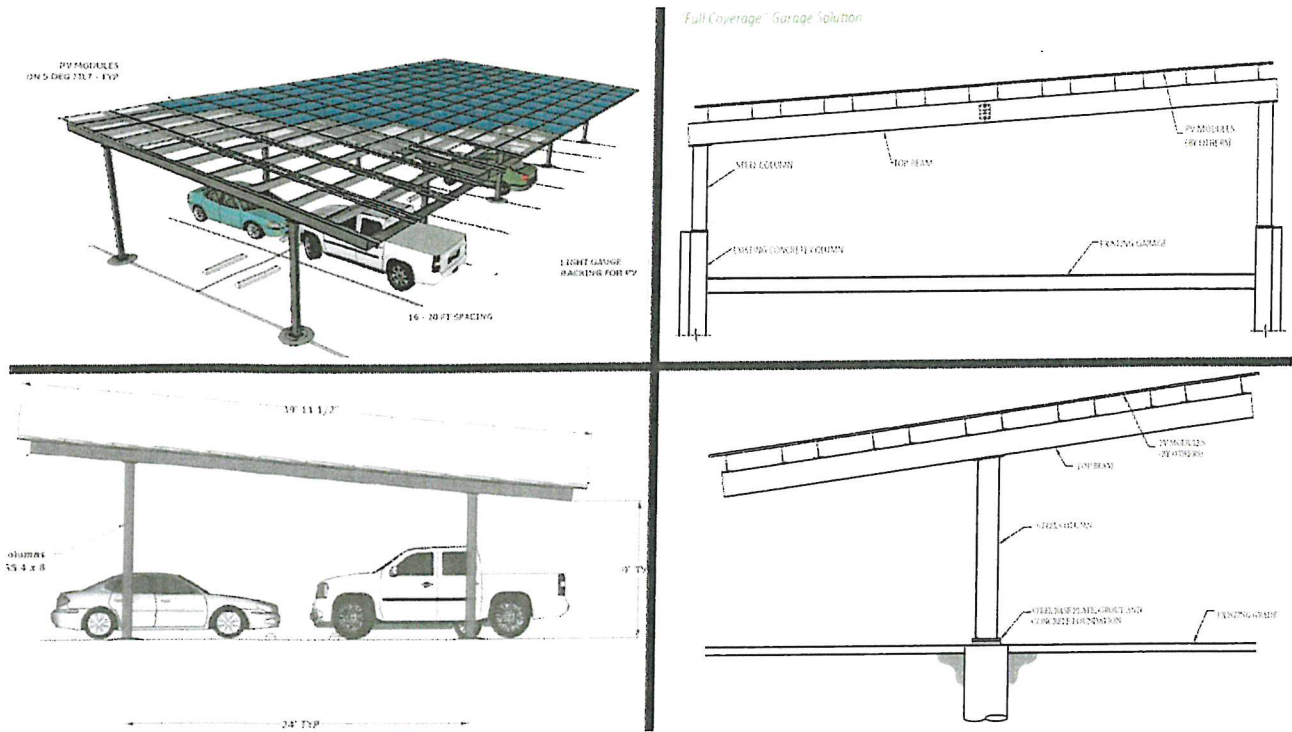


Figure 8 Examples of carport structures for mounting solar panels that could be used at Rio Dells WWTP.

Table 7 below shows details of potential roof-mounted and carport-mounted installation options including locations, PV system size in DC watts, estimated system cost, annual energy production, annual avoided energy costs, percentage of bill offset, and simple payback.

Table 7 Summary of solar PV array options at Rio Dell's WWTP.

Energy Measure	PV System Size (kW DC)	System Cost/ DC watt (\$)	Estimated System Cost	Annual Energy Production (kWh AC)	Annual Avoided Costs (\$)	Annual Bill Offset (%)	Simple Payback
Roof-Mounted Array on Maintenance Building	40	\$3.50	\$140,000	46,681	\$8,957	7%	15.6
Roof-Mounted Array on Water Treatment Building	24	\$3.50	\$84,000	28,009	\$5,374	4%	15.6
Carport-Mounted Array on New Treatment Works	104	\$4.50	\$468,000	137,543	\$25,954	20%	18.0
Carport-Mounted Array on Open Space	128	\$4.50	\$576,000	169,284	\$31,943	25%	18.0
Carport-Mounted Array on Old Treatment Works	46	\$4.50	\$207,000	60,942	\$11,500	9%	18.0
<b>Totals</b>	<b>342</b>	<b>\$4.30</b>	<b>\$1,475,000</b>	<b>442,460</b>	<b>\$83,728</b>	<b>66%</b>	<b>17.6</b>

#### 5.4 Solar Photovoltaic (PV) System Size

If the available areas listed above were utilized, RCEA estimates that Rio Dell's WWTP could host a 342 kW DC PV installation that would offset approximately 70% of the WWTP's electric consumption and 66% of the

WWTP’s electric bills under the E-19-R rate. The difference between kWh offset and bill offset in this case is due to the high rate of demand charges included in the E-19 rate, solar PV systems do not reduce demand charges as predictably as kWh charges because of the potential for intermittent output from the solar array. The assumptions and inputs used in RCEA’s solar PV system sizing calculations can be found in **Appendix B** of this document. Figure 9 below shows the estimated electric usage and solar production under the above assumptions.

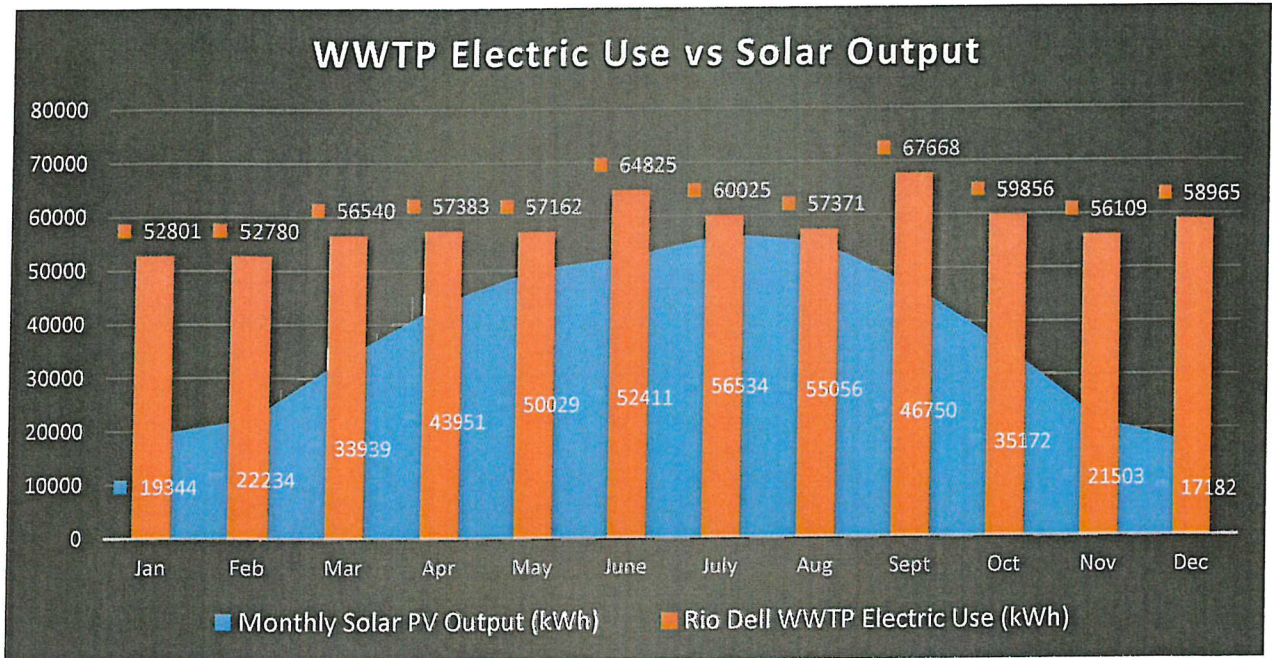


Figure 9 Estimated electric use and solar production at Rio Dell WWTP with a 342 kW DC solar installation.

### 5.5 Solar Photovoltaic (PV) System Cost

In RCEA’s recent history with solar PV installations for public schools, the average installed price of a PV system, including all labor, materials, engineering, permitting and design for roof-mounted systems has been about \$3.50/DC watt. However, the cost of a carport system would likely be higher than a roof mounted system on an existing building due to the added costs of constructing the carport. RCEA modeled higher installation costs for carport systems at \$4.50/watt DC. By combining roof-mounted and carport-mounted arrays at the WWTP the average cost of the 342 kW DC solar installation would be \$4.30/watt which would yield a total system cost of approximately \$1,475,000. Table 8 below shows a break-down of the estimated costs for the proposed PV system.

Table 8 Estimated costs for a 342 kW DC solar PV installation at Rio Dell’s WWTP.

PV System Cost Estimate	
PV Modules	\$ 368,750
Inverters	\$ 191,750
Electrical/Structural Balance of Systems	\$ 221,250
Labor	\$ 295,000
Engineering and Design	\$ 147,500
Permitting and Interconnection	\$ 44,250
Overhead and Profit	\$ 206,500
<b>Total Cost</b>	<b>\$ 1,475,000</b>

## 5.6 Utility Rate Analysis

Rio Dell’s WWTP is currently on an E-19-S rate which has relatively high demand charges and lower kWh charges. However, the WWTP would be eligible to switch to E-19-R, which is reserved for customers with an on-site solar array that offsets at least 15% of electric load, which would require an estimated 85 kW DC solar PV installation. Based on RCEA’s analysis of the previous 12-month usage history, switching to an E-19-R rate would provide savings of about \$2,300 or roughly 1.7% of the annual electric bill.

Table 9 below shows a summary of the estimated savings from switching to an E-19-R rate at Rio Dell’s WWTP.

*Table 9 Estimate of savings from switching to an E-19-R rate at Rio Dell's WWTP.*

Rate	2018-2019 Consumption (kWh)	Total Charges (\$)	Amount Saved on E-19-R (\$)	Percent Saved (%)
E-19-S	651,772	\$132,362	\$0	0
E-19-R	651,772	\$130,063	\$2,299	1.7%

## 6 Findings

RCEA performed a financial analysis for the WWTP solar installation. The assumptions that were used in RCEA’s economic modeling can be found in **Appendix C** of this document. Based on the analysis of the potential project options outlined above, RCEA finds that solar PV installations at City Hall and the Wastewater Treatment Plant are possible and could meet the requirements of the CEC’s 1% interest loan program for eligible renewable energy projects. Projects with a simple payback period of less than 17 years are eligible for the 1% interest loan. Rio Dell could see significant economic benefits from enacting the solar PV installations analyzed in this report. The City Hall project provides the best economic payback of the two solar projects largely due to the A-6 electric rate which provides a high rate of compensation for the kWh produced by a solar PV installation. A 342 kW DC solar installation at the city’s WWTP would require an initial investment of about \$1,475,000. Such a system would produce roughly \$83,000 in annual energy savings and would offset over half of the electricity consumption and costs from the site. The system would have a simple payback period of about 17.6 years. By itself, this project would not be eligible for loan funding under the CEC’s 1% interest loan program known as the Energy Conservation Assistance Act (ECAA). The City of Rio Dell should consider enacting lighting efficiency upgrades at the WWTP and changing the WWTP electric account to a more favorable electric rate, such as the E-19-R time-of-use rate analyzed in this report, if a solar PV installation is pursued at the WWTP.

RCEA recommends that the City of Rio Dell combine the potential lighting project at the WWTP, the E-19-S to E-19-R rate change, and the potential solar project at City Hall, into a combined project that could qualify for CEC funding. Table 10 below shows the results of RCEA’s economic analysis of a 22.4 kW DC solar array at City Hall, an LED lighting upgrade at the WWTP, a 342 kW DC solar PV array at Rio Dell’s WWTP operated on the E-19-R rate, and the savings from the E-19-S to E-19-R utility rate.

Table 10 Summary of energy conservation measures for the City of Rio Dell's City Hall and WWTP.

Energy Conservation Measure	PV System Size (kW DC)	Estimated Project Cost (\$)	Estimated Rebate (\$)	Net Cost (\$)	Annual Energy Savings (kWh)	Annual Avoided Costs (\$)	Annual Bill Offset (%)	Simple Payback
Roof-Mounted Solar Array on City Hall	22.4	\$78,400	\$0	\$78,400	25,108	\$8,188	100%	9.6
Interior and Exterior Lighting Upgrades to LEDs	-	\$13,810	\$2,803	\$11,008	13,646	\$2,403	2%	4.6
Roof-Mounted and Carport-Mounted Solar Arrays at the WWTP	342	\$1,475,000	\$0	\$1,475,000	442,460	\$83,728	66%	17.6
Rate Change from E-19S to E-19R	-	\$0	\$0	\$0	-	\$2,299	2%	-
<b>Totals</b>	<b>364.4</b>	<b>\$1,567,210</b>	<b>\$2,803</b>	<b>\$1,564,408</b>	<b>481,214</b>	<b>\$96,619</b>	<b>71%</b>	<b>16.2</b>

### 6.1 Next Steps

If the City of Rio Dell resolves to move forward with a solar PV project, RCEA will be able to investigate the project's eligibility for, and prepare the technical documents required of, the CEC loan 1% interest loan program.

The next steps for Rio Dell to pursue if a project is to move forward are:

- Secure City approval
- Begin planning and basic design
- Prepare CEC 1% loan application with RCEA assistance

## Appendix A A-6, E-19-S and E-19-R utility rates used for feasibility study

Table 11 RCEA's and PG&E's A-6 time-of-use electric rate schedule.

A-6 Time of Use Electric Rates						
Season	PG&E Delivery Rate	RCEA Generation Rate	Total A-6 TOU Rates	Months	Days	Time
Summer Peak	\$0.19953	\$0.3836600	\$0.583190	May-Oct	Mon-Fri	12pm-6pm
Summer Part-Peak	\$0.14229	\$0.1464700	\$0.288760	May-Oct	Mon-Fri	8:30am-12:00pm AND 6:00pm-9:30pm
Summer Off-Peak	\$0.12899	\$0.0887600	\$0.217750	May-Oct	Mon-Fri Sat- Sun	9:30pm-8:30am All Day
Winter Part-Peak	\$0.11858	\$0.1139800	\$0.232560	Nov-Apr	Mon-Fri	8:30am-9:30pm
Winter Off-Peak	\$0.11784	\$0.0966500	\$0.214490	Nov-Apr	Mon-Fri Sat- Sun	9:30pm-8:30am All Day

Table 12 RCEA's and PG&E's E-19-S electric rate schedule.

E-19 S Electric Rates							Demand Charges		
Season	PG&E Delivery Rate	RCEA Generation Rate	Total E-19-R Rates	Months	Days	Time	Gen	Dist	Total
Summer Peak	\$0.02241	\$0.14608	\$0.16849	May-Oct	Mon-Fri	12pm-6pm	14.7015	6.78	21.4815
Summer Part-Peak	\$0.02241	\$0.09895	\$0.12136	May-Oct	Mon-Fri	8:30am-12:00pm AND 6:00pm-9:30pm	3.6333	2.32	5.9533
Summer Off-Peak	\$0.02241	\$0.06773	\$0.09014	May-Oct	Mon-Fri Sat-Sun	9:30pm-8:30am All Day	0	19.59	19.59
Winter Part-Peak	\$0.02241	\$0.09249	\$0.11490	Nov-Apr	Mon-Fri	8:30am-9:30pm	0	0.14	0.14
Winter Off-Peak	\$0.02241	\$0.07548	\$0.09789	Nov-Apr	Mon-Fri Sat-Sun	9:30pm-8:30am All Day	0	19.59	19.59



Table 13 RCEA's and PG&E's E-19-R electric rate schedule.

E-19 R Electric Rates							Demand Charges		
Season	PG&E Delivery Rate	RCEA Generation Rate	Total E-19-R Rates	Months	Days	Time	Gen	Dist	Total
Summer Peak	\$0.07744	\$0.30493	\$0.38237	May-Oct	Mon-Fri	12pm-6pm	0	1.69	1.69
Summer Part-Peak	\$0.04069	\$0.13877	\$0.17946	May-Oct	Mon-Fri	8:30am-12:00pm AND 6:00pm-9:30pm	0	0.58	0.58
Summer Off-Peak	\$0.02356	\$0.07203	\$0.09559	May-Oct	Mon-Fri Sat-Sun	9:30pm-8:30am All Day	0	19.59	19.59
Winter Part-Peak	\$0.02410	\$0.09596	\$0.12006	Nov-Apr	Mon-Fri	8:30am-9:30pm	0	0.03	0.03
Winter Off-Peak	\$0.02356	\$0.07952	\$0.10308	Nov-Apr	Mon-Fri Sat-Sun	9:30pm-8:30am All Day	0	19.59	19.59

## Appendix B Assumptions and inputs used in RCEA's solar PV system sizing.

Table 14 Assumptions and inputs for PV system analysis for the City of Rio Dell.

City Hall PV System Sizing Inputs	
Array Orientation (Degrees)	190
Array Tilt (Degrees)	18.5
Average Daily Insolation (kWh/m <sup>2</sup> /day)	4.51
Inverter Efficiency (%)	97%
De-rate Factor (Soiling, Wire Loss, Mismatch) (%)	10%
Shading (%)	2%
Average Operating Cell Temperature (°C)	40
Temperature Coefficient of Power (Wp/°C)	-0.0037
Module DC Rating (Watts)	320
Manufacturer Power Guarantee (%)	98%

Table 15 Assumptions and inputs for PV system analysis at Rio Dell's Wastewater Treatment Plant.

PV System Sizing Inputs	
Array Orientation (Degrees)	220
Array Tilt (Degrees)	20
Average Daily Insolation (kWh/m <sup>2</sup> /day)	4.44
Inverter Efficiency (%)	98%
De-rate Factor (Shading, Soiling, Wire Loss, Mismatch) (%)	10%
Shading	1%
Average Operating Cell Temperature (°C)	40
Temperature Coefficient of Power (/°C)	-0.0037
Module DC Rating (Watts)	320
Manufacturer Power Guarantee (%)	98%

## Appendix C Assumptions and inputs used in RCEA's financial analysis.

Table 16 Assumptions and inputs for financial analysis of solar PV installation at City Hall.

Financial Analysis Assumptions for City Hall Option	
Inflation rate	2%
Discount rate	5%
Electricity escalation rate	3%
Added maintenance	0.30%
Annual PV production degradation rate	0.50%
Percentage of electricity cost not due to peak demand	85%
Cost to replace inverter at year 15	\$0.30/watt
System price	\$3.50/watt

Table 17 Assumptions and inputs for financial analysis of solar PV installation at the WWTP.

Financial Analysis Assumptions for WWTP Option	
Inflation rate	2%
Discount rate	5%
Electricity escalation rate	3%
Added maintenance	0.30%
Annual PV production degradation rate	0.50%
Percentage of electricity cost not due to peak demand	85%
Cost to replace inverter at year 15	\$0.30/watt
System price	\$4.31/watt



# Governing Board Resolution

Resolution No. \_\_\_\_\_

Resolution of \_\_\_\_\_  
(Public Agency)

**WHEREAS**, the Redwood Coast Energy Authority's Public Agency Solar Program provides technical assistance; and

**WHEREAS**, \_\_\_\_\_  
(Public Agency)

Authorizes \_\_\_\_\_ to apply for technical assistance;  
(Public Agency)

and **WHEREAS** the \_\_\_\_\_ recognizes that the  
(Public Agency)

Redwood Coast Energy Authority has limited funds available to provide technical assistance and that priority consideration will be given to those Public Agencies that have a desire and willingness to seek funding to implement feasible recommended energy-efficiency and renewable energy generation measure(s);

Now Therefore Be it Resolved, that \_\_\_\_\_  
(Public Agency)

is willing to seek funding to implement viable energy-saving or renewable energy generation measure(s) and therefore requests technical and project assistance to identify such measures as may be economically feasible.

Be it Also Resolved, that \_\_\_\_\_  
(Title of Public Agency Official)

is hereby authorized and empowered to execute in the name of \_\_\_\_\_  
(Public Agency)

all necessary documents to implement and carry out the purposes of this resolution.

Passed, Approved, and Adopted this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_  
(Month) (Year)

### Signatures of Public Agency Governing Members

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# ENERGY CONSERVATION ASSISTANCE ACT (ECAA)

No application fees, points, or hidden costs

**Eligible Applicants: Only the following entities are eligible for these funds:**

**Cities, Counties, Special Districts, Public Colleges or Universities  
(Except Community Colleges), and Public Care Institutions / Public Hospitals**

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## Interest Rate 1% Loans

FINANCING FOR ENERGY EFFICIENCY  
& RENEWABLE ENERGY GENERATION  
PROJECTS

---

# NOTICE and APPLICATION

**P O N - 1 7 - 4 0 1**  
**R e l e a s e D a t e :**  
**S e p t e m b e r 8 , 2 0 1 7**

**EDMUND G. (JERRY) BROWN JR.**  
Governor



---

California Energy Commission

<http://www.energy.ca.gov/efficiency/financing/index.html>

Phone: (916) 651-3747

# FINANCING FOR ENERGY EFFICIENCY

## ELIGIBLE APPLICANTS

Only the following entities are eligible for these funds:

- Cities
- Counties
- Special Districts
- Public Colleges or Universities (except Community Colleges)
- Public Care Institutions / Public Hospitals

***Non-profit entities, residential, and commercial projects are not eligible for these funds.***

## ELIGIBLE PROJECTS

**Examples of Eligible Projects:**

- Lighting systems
- Heating, ventilation and air conditioning equipment
- Streetlights and LED traffic signals
- Energy management systems and equipment controls
- Pumps and motors
- Building envelope and insulation
- Energy generation, including renewable energy and combined heat and power projects
- Water and waste water treatment equipment
- Load shifting projects, such as thermal energy storage

**Projects which are already installed are ineligible.**

## LOAN INFORMATION

- The maximum loan amount is \$3 million (please see PROJECT CRITERIA for additional information). There is no minimum loan amount.
- The interest rate is fixed at 1% for the term of the loan.
- A loan applicant with an existing ECAA loan may apply for an additional loan if additional funding becomes available, and when the applicant's existing loan project is complete.

Before applying, please contact the Energy Commission for the most current funding information. This is a revolving loan fund and repayments from previously approved loan awards replenish the fund balance.

Approximately \$7 Million in loan funding is expected to be available during Fiscal Year 2017-18. The Energy Commission reserves the right to:

- Increase the amount of funds available under this loan notice when additional loan funds become available.
- Add funding sources under this loan notice if and when additional funding sources become available.

## **Funding Source**

Loans funded under this loan notice originate from one or more of the following sources:

- Energy Conservation Assistance Act (ECAA)
- Bond Proceeds from ECAA Tax-Exempt Revenue Bonds

## **Loan Security Requirements**

A promissory note and a loan agreement between the applicant and the Energy Commission are required to secure the loan.

## **Disbursement of Loan Funds**

Loan funds are available on a reimbursement basis. For each reimbursement request, receipts and invoices for incurred expenses must be submitted along with proof of payment. The final 10 percent of the funds will be retained until the project is completed and the applicant submits the project final report. Interest is charged on the unpaid principal balance of the loan computed from the date of each disbursement to the borrower.

## **Repayment Terms**

- Loans must be repaid from energy cost savings or other legally available funds within a maximum term of 20 years (including principal and interest).
- The amortization of the loan and repayment schedule will be based on the number of years needed to repay the loan (principal and interest) using an estimate of the energy cost savings during the first year after project completion. Energy cost savings are based on applicable tariff and operating schedules at the time the loan application is submitted.
- The loan repayment term cannot exceed the effective useful life of the loan-funded equipment.
- Applicants will be billed twice a year, in June and December, after the project is completed.

## **Sample Loan Agreement**

Applicants must review the sample loan agreement documents posted at the <http://www.energy.ca.gov/efficiency/financing> before submitting an application. Please refer to the heading “Loan Agreement” for PON-17-401– 1% Loans. The loan agreement will be either a bond or non-bond agreement, depending on the funding source, which will be determined solely by the Energy Commission.

## Additional Loan Information

- All documents are public records and will not be kept confidential.
- Loans may require a tax certificate.

## PROJECT CRITERIA

Projects with proven energy and/or demand cost savings are eligible, provided they meet ECAA eligibility requirements. A feasibility study is required to verify the estimated energy savings.

- A. The maximum loan amount per application is the lesser of:
1. \$3 million;
  2. The estimated total project cost; or
  3. The estimated total energy cost savings over the effective useful life (EUL) of the loan-funded equipment, not to exceed 17 years.

If the estimated total project cost is more than the estimated total energy cost savings over the EUL of the loan-funded equipment, the applicant may reduce the estimated total project cost to the estimated total energy cost savings level by using rebates, incentives, and/or its own funding. However, other loan sources may not be used to co-fund the project.

- B. The estimated total energy cost savings over the life of the project will be calculated by multiplying each measure's annual energy cost savings by that measure's EUL and then adding up the savings for all projects.

The applicant may use EULs provided in the Database for Energy Efficiency Resources (DEER)<sup>1</sup>, Appendix E of the Proposition 39 (California Clean Energy Jobs Act) Program Implementation Guidelines<sup>2</sup> (July 2016), or the equipment manufacturers' warranty. EULs will be the lesser of the EUL stated in the application or 17 years to allow for repayment of principal and interest within 20 years.

- C. Energy cost savings shall be determined using the applicant's current energy rates. Escalation of energy rates and soft costs, such as operation and maintenance savings, will not be considered when determining energy cost savings.
- D. Leased Facilities: If the project is located in a leased facility the term of the lease must exceed the repayment period.

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<sup>1</sup> [http://www.deeresources.com/files/DEER2013codeupdate/download/DEER2014-EUL-table-update\\_2014-02-05.xlsx](http://www.deeresources.com/files/DEER2013codeupdate/download/DEER2014-EUL-table-update_2014-02-05.xlsx)

<sup>2</sup> <http://energy.ca.gov/2016publications/CEC-400-2016-005/CEC-400-2016-005-CMF.pdf>



## Project Commencement

A loan agreement must be fully executed (*i.e.* signed by the Energy Commission and the loan applicant) before the project work can begin. Only approved project-related costs that are incurred within the term of the executed agreement and comply with the terms and conditions of the loan agreement are eligible for reimbursement.

## HOW TO APPLY

Applicants must submit the following:

- A. Completed and signed ***Loan Application*** (Attachment 1).
- B. Completed ***Summary of Energy Efficiency Projects in Loan Request Table*** (Attachment 2).
- C. **Governing Body Resolution** (see Attachment 3)
- D. **CEQA Compliance Documentation** (see Attachment 4)

Applicants must include a copy of documentation demonstrating that the applicant has complied with CEQA in approving the project. There are three possible actions the applicant may take. The applicant may determine that the activity undertaken by the loan is:

1. Not a project: include a statement that all projects to be funded by the loan are not projects under CEQA, and analysis supporting the conclusion that the activity is not a project.
2. A project that is EXEMPT: include any Notice of Exemption if filed by the applicant.
3. A project that is NOT EXEMPT: include any Notice of Determination filed by the applicant and a copy, web link or electronic version of any environmental documents prepared, such as:
  - Negative Declaration;
  - Mitigated Negative Declaration; or
  - Environmental Impact Report.

### E. Documentation of Applicant's Authority:

- a. Documentation showing the authority of the applicant to enter into the loan agreement.

A copy of a signed resolution, motion, order, etc. from the applicant's governing board (see Attachment 3 for a sample). The resolution, motion, order, etc. must include the finding on CEQA compliance. If the CEQA finding is in the agenda item, include both the agenda item and the resolution. If the CEQA finding is in the resolution, do not include a copy of the agenda item;

OR

If the applicant does not use motions/resolutions/orders, include a copy of the law or other document showing the applicant's authority to enter into a loan agreement.

AND

- b. Documentation showing the job title of the individual who is authorized to apply for the loan and execute the loan agreement. In most cases, the title of the individual will be listed in the resolution, motion or order (see Attachment 3 for a sample);

OR

If the applicant does not use motions/resolutions/orders, the applicant must include other documentation showing the job title of the authorized individual.

**F. Utility Billing Data**

The applicant must electronically submit 12 months of recent baseline utility data records from electric and natural gas utilities, unless the information on utility usage and rate schedules are included in the feasibility study or energy audit report.

- G. **Feasibility Study** or energy audit report (may be submitted via CD or flash drive). The study must have been completed within the past two years and must contain:

1. A detailed description of the proposed project;
2. A description of the buildings/facilities affected by the proposed project;
3. A discussion of baseline energy use for the facilities, including annual energy related utility bills;
4. All calculations and assumptions to support the technical feasibility and energy savings of the proposed recommended project;
5. A proposed budget detailing all project costs; and
6. A proposed schedule for implementation of the project. If the feasibility study identifies maintenance and operating procedures, the applicant shall include the estimated date of implementation or provide a reason for not implementing.

## **APPLICATION SUBMITTAL AND REVIEW PROCESS**

Applications will be validated for eligibility based on the requirements of this loan notice PON-17-401. Applications deemed complete and eligible for funding will be processed in the order received. Applications are deemed complete when documentation is submitted to verify eligibility and compliance with all requirements listed in this loan notice.

If funding becomes oversubscribed, applications will be placed on a waiting list in the order they were deemed complete. In the event that there are two or more complete applications received on the same date and time, the application with

the shorter payback period will be given the higher priority ranking on a waiting list.

Energy Commission staff will review the loan application and supporting documents to evaluate the proposed project's technical and economic feasibility. Further, Energy Commission staff will perform its own CEQA evaluation of the proposed project. It may be necessary to arrange a site visit to evaluate the project and loan request.

## **ATTACHMENTS TO THIS LOAN NOTICE**

- Attachment 1: ECAA Loan Application for Energy Commission Financing Interest Rate 1%
- Attachment 2: Summary of Energy Efficiency Measures in Loan Request
- Attachment 3: Sample Resolution
- Attachment 4: California Environmental Quality Act (CEQA) Information

## **HOW TO SUBMIT AN APPLICATION**

Mail the loan application and all supporting documentation to:

ECAA Loan Program  
LOCAL ASSISTANCE AND FINANCING OFFICE  
California Energy Commission  
1516 Ninth Street, MS #23  
Sacramento, CA 95814-5512

Applications may be submitted at any time and this loan notice will remain posted for a minimum of 90 days from the original release date.

## **CONTACT INFORMATION FOR ASSISTANCE AND QUESTIONS**

Please call or email the California Energy Commission to discuss available funding or any other information in this loan notice:

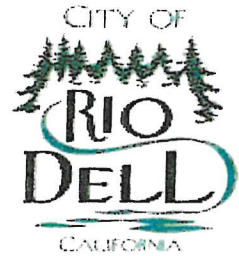
**For Assistance:**  
**Email: [PubProg@energy.ca.gov](mailto:PubProg@energy.ca.gov)**  
**Phone: (916) 651-3747**

## **Loan Notice Documents**

A copy of this loan notice, all attachments to this loan notice, sample loan agreements and more information is available for download at:

<http://www.energy.ca.gov/efficiency/financing/>

The Energy Commission reserves the right to close or change this loan notice.



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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
riodellcity.com*

April 9, 2018

Mike Avcollie, Project Manager  
Redwood Coast Energy Authority  
633 3<sup>rd</sup> Street  
Eureka, CA 95501

**Re: Letter of Intent to Participate in the Public Agency Pilot Solar Program**

Dear Mr. Avcollie,

It is the City's intent to participate in the Public Agency Pilot Solar Program. As you know Rio Dell sits just inland of the coastal fog bank and has tremendous potential for solar energy. There is support for this type of project and support for the enhancements to energy efficiency and the environment that will result. Potential City projects include:

- a. Solar installation at the City of Rio Dell's Wastewater Treatment Plant
- b. Solar installation at the City of Rio Dell's City Hall.

Our main focus is on a solar installation at the Wastewater Treatment Plant (WWTP). This facility is easily the largest consumer of energy within city limits. The construction of this facility poses a potential opportunity to receive not just the benefits of solar energy, but also enhancements to water quality. The City conceptualizes the placement of a solar array over the WWTP itself, shielding its processes from the growth of unwanted algae that is a potential threat to the water quality of the Eel River. Algae are an unwanted biological material in the WWTP that upsets PH, oxygen and carbon dioxide levels. This interaction can lead to the creation of chlorine disinfection byproducts that then adversely impact water quality on the Eel River.

Second the City is also interested in a solar installation at City Hall, a facility with a new roof and excellent location for such a system. With both projects our goals are to create a more energy efficient City that better protects the environment. To this end, the City of Rio Dell commits to providing any data, documents or site access required to perform the needed work. The City agrees to explore the financing of a proposed, CEQA compliant project.

Our contact information for the project is listed below.

Point of Contact: Kyle Knopp, City Manager  
City of Rio Dell  
675 Wildwood Avenue  
Rio Dell, CA 95562  
[knoppk@cityofriodell.ca.gov](mailto:knoppk@cityofriodell.ca.gov)

Sincerely,



Kyle C. Knopp  
City Manager, City of Rio Dell



Public Agency Pilot Solar Program

Organization: City of Rio Dell

Name of Decision Maker: Kyle Knopp Title: City Manager

Primary Contact Info: Kyle Knopp Title: City Manager

Primary Address: 675 Wildwood Ave City: Rio Dell Zip: 95562

Mailing Address: 675 Wildwood Ave City: Rio Dell Zip: 95562

Phone: (707) 764-3532 Cell: (707) 616-2301 Fax: (707) 764-5480

Email: KnoppK@CityofRioDell.ca.gov

How did you hear about Redwood Coast Energy's Public Agency Solar Program? Email

Site Information: Please list sites of interest for solar assessment (attach additional sheets if necessary)

Site Name: Waste Water Treatment Plant Site Address: 475 Hilltop Dr. Rio Dell, CA

Certifications

- Public agency commits to provide data, site access and relevant documents.
- Public agency commits to exploring financing or funding for potential projects that are deemed cost-effective by common industry standards.
- Public agency commits to ensuring all CEQA requirements are met.
- Public agency commits to the state's loading order for energy related projects.
- Public agency commits to ensuring staff time is made available to move related projects forward promptly.
- Public agency commits to following all contracting requirements for public works projects.

By signing this application I authorize a Redwood Coast Energy Authority representative to access my facility and to conduct a **NO-COST** assessment. I understand that the evaluation and report (when applicable) will be provided to me at **NO COST** and with no obligation to pay for any goods or services. In the unlikely event that any incidental or consequential damage occurs during the evaluation process, each party assumes responsibility for its own negligence, including responsibility for the negligence of its employees, contractors, subcontractors, and agents, and for the claims of third parties resulting from such negligence.

Print Name: Kyle C. Knopp

Signature: [Handwritten Signature] Date: 4/9/2018

Please submit this application to Redwood Coast Energy Authority  
 Mail or deliver to: 633 3rd Street, Eureka, CA 95501 • Fax: 707.269.1777  
 Email: mavcollie@redwoodenergy.org • If you have questions, contact us at 707.269.1700



Public Agency Pilot Solar Program

Organization: City of Rio Dell

Name of Decision Maker: Kyle Knapp Title: City Manager

Primary Contact Info: " Title: "

Primary Address: 675 Wildwood Ave City: Rio Dell Zip: 95562

Mailing Address: " City: " Zip: "

Phone: (707) 474-3532 Cell: (707) 616-2301 Fax: (707) 764-5480

Email: \_\_\_\_\_

How did you hear about Redwood Coast Energy's Public Agency Solar Program? Email

Site Information: Please list sites of interest for solar assessment (attach additional sheets if necessary)

Site Name: City Hall Site Address: 675 Wildwood Ave, Rio Dell

Certifications

- Public agency commits to provide data, site access and relevant documents.
- Public agency commits to exploring financing or funding for potential projects that are deemed cost-effective by common industry standards.
- Public agency commits to ensuring all CEQA requirements are met.
- Public agency commits to the state's loading order for energy related projects.
- Public agency commits to ensuring staff time is made available to move related projects forward promptly.
- Public agency commits to following all contracting requirements for public works projects.

By signing this application I authorize a Redwood Coast Energy Authority representative to access my facility and to conduct a **NO-COST** assessment. I understand that the evaluation and report (when applicable) will be provided to me at **NO COST** and with no obligation to pay for any goods or services. In the unlikely event that any incidental or consequential damage occurs during the evaluation process, each party assumes responsibility for its own negligence, including responsibility for the negligence of its employees, contractors, subcontractors, and agents, and for the claims of third parties resulting from such negligence.

Print Name: Kyle Knapp

Signature: [Handwritten Signature] Date: 4/10/2018

Please submit this application to Redwood Coast Energy Authority  
 Mail or deliver to: 633 3rd Street, Eureka, CA 95501 • Fax: 707.269.1777  
 Email: mavcollie@redwoodenergy.org • If you have questions, contact us at 707.269.1700





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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 3, 2019

TO: Rio Dell City Council

FROM: Kyle Knopp, City Manager 

SUBJECT: Discussion on Humboldt Wind Energy Project

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Provide direction to staff, if any.

BACKGROUND AND DISCUSSION

Staff will provide an update on the wind energy project.

///



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*Rio Dell City Hall  
675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532  
cityofriodell.ca.gov*

December 3, 2019

TO: Rio Dell City Council

FROM: Kyle Knopp, City Manager

SUBJECT: Discussion on Danco Project *3*

IT IS RECOMMENDED THAT THE CITY COUNCIL:

Provide direction to staff, if any.

BACKGROUND AND DISCUSSION

Staff will provide an update on outreach efforts.

///


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675 Wildwood Avenue  
Rio Dell, CA 95562  
(707) 764-3532



**For Meeting of: December 3, 2019**

To: City Council

From: Kevin Caldwell, Community Development Director 

Through: Kyle Knopp, City Manager

Date: November 26, 2019

Subject: Adoption of the State's Model Water Efficient Landscape Ordinance (MWELo), establishing Chapter 13.40 of the Rio Dell Municipal Code (RDMC).

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**Recommendation:**

That the City Council:

1. Receive staff's report regarding the adoption of the State's Model Water Efficient Landscape Ordinance (MWELo), establishing Chapter 13.40 of the Rio Dell Municipal Code (RDMC); and
2. Introduce (first reading) Ordinance No. 378-2019 establishing a Model Water Efficient Landscape Ordinance (MWELo), establishing Chapter 13.40 of the Rio Dell Municipal Code (RDMC.); and
3. Open the public hearing, receive public input and deliberate; and
4. Continue consideration, approval and adoption of the proposed Ordinance to your meeting of December 17, 2019 or the next regularly scheduled Council meeting for the second reading and adoption.

**Discussion**

The purpose of the Model Water Efficient Ordinance is to add provisions to the Rio Dell Municipal Code to address permitting requirements for water efficient landscaping. These changes are necessary to reflect changes in California law (Assembly Bill 1881, Government Code Section 65591 et seq.) and to promote the conservation and efficient use of water.

Staff is recommending adopting the State's Model Water Efficient Landscape Ordinance (MWELO). The City can adopt a more restrictive Ordinance, however staff recommends adopting the State model.

All new development projects are subject to the Ordinance, including new and rehabilitated residential, commercial, industrial and institutional projects that require a permit, plan check or design review.

Staff has utilized and modified the City of Davis' handouts and required forms for use in Rio Dell. They are included as Attachments.

### **Attachments**

Attachment 1: Ordinance No. 378-2019 establishing Chapter 13.40, Model Water Efficient Landscape Ordinance (MWELO) of the Rio Dell Municipal Code (RDMC).

Attachment 2: Model Efficient Landscape Ordinance (MWELO) Fact Sheet.

Attachment 3: Model Efficient Landscape Ordinance (MWELO) Project Information Form.

Attachment 4: Model Efficient Landscape Ordinance (MWELO) Short Form Prescriptive Compliance Form.

Attachment 5: Model Efficient Landscape Ordinance (MWELO) Performance Approach Form.

Attachment 6: Model Efficient Landscape Ordinance (MWELO) Worksheet Form and Example.

Attachment 7: Model Efficient Landscape Ordinance (MWELO) Department of Water Resources, Evapotranspiration Rates, Appendix A, Title 23, Chapter 2.7 CCR.

Attachment 8: Model Efficient Landscape Ordinance (MWELO) Certificate of Completion.

**ORDINANCE NO. 378-2019**



**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RIO DELL  
ESTABLISHING A WATER EFFICIENT LANDSCAPE ORDINANCE,  
CHAPTER 13.40 OF THE RIO DELL MUNICIPAL CODE**

**WHEREAS**, Governor Brown’s Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State’s Model Water Efficient Landscape Ordinance (MWELo) through expedited regulation; and

**WHEREAS**, the California Water Commission approved the revised Ordinance on July 15, 2015; and

**WHEREAS**, about half of the urban water is used for landscape irrigation in California; and

**WHEREAS**, large water savings can be gained by efficient landscape design, installation, and maintenance; and

**WHEREAS**, new development and retrofitted landscape water efficiency standards are governed by the Model Water Efficient Landscape Ordinance (MWELo); and

**WHEREAS**, all agencies are required to adopt, implement, and enforce the MWELo or a more stringent ordinance.

**WHEREAS**, all new development projects are subject to the Ordinance, including new and rehabilitated residential, commercial, industrial and institutional projects that require a permit, plan check or design review.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Rio Dell does hereby ordain as follows:

**Section 1.**

**Chapter 13.40 of the Rio Dell Municipal Code is hereby established as follows**

**(1) Purpose.**

The purpose of this Ordinance is to add provisions to the Rio Dell Municipal Code to address permitting requirements for water efficient landscaping. These changes are necessary to reflect changes in California law (Assembly Bill 1881, Government Code Section 65591 et seq.) and to promote the conservation and efficient use of water.

**(2) Applicability.**

(a) The provisions of this Article shall apply to all of the following landscape projects that are provided and/or required as part of a building permit, grading permit, discretionary permit, or site plan review:

(1) Public agency and private development projects. New construction and rehabilitated landscape projects with landscape area equal to or greater than 2,500 square feet.

(2) Developer-installed in single-family and multi-family residential projects. New construction and rehabilitated landscape projects with landscape area equal to or greater than 2,500 square feet cumulative.

(3) Homeowner-provided in single-family and multi-family residential projects. New construction landscape projects with landscape area equal to or greater than 5,000 square feet that are served by a community water system.

(b) These provisions shall also apply to the following landscape projects with significant water needs:

(1) Existing landscapes equal to or greater than one acre, with a dedicated water meter. Such landscapes are limited to preparing a water efficient landscape worksheet in accordance with the specifications in the Landscape Documentation Package (Section 13.40(4) Submittal Requirements). If water use exceeds the Maximum Applied Water Allowance, the property owner shall consult the Planning and Public Works Department for recommendations to reduce water use and to prevent water waste.

(2) New and rehabilitated cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries shall require the preparation of a water efficient landscape worksheet and submittal of a Certificate of Completion. Existing cemeteries are limited to (1) above.

(c) The provisions of these regulations shall not apply to the following:

(1) Registered local, state or federal historical sites;

(2) Ecological restoration and similar projects that do not require irrigation systems for longer than five years in duration to establish the plants;

(3) Mined-land reclamation projects that do not require irrigation systems for longer than five years in duration to establish the plants;

(4) Plant collections, as part of botanical gardens, arboretums, and nature centers open to the public; and

(5) Community gardens.

### **(3) Definitions.**

For the purposes of these regulations, unless otherwise apparent from the context, certain words and phrases used in these regulations are defined as follows:

“Backflow prevention device” means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

“California Invasive Plant Inventory” means the California Invasive Plant Inventory maintained by the California Invasive Plant Council.

“Check valve” or “anti-drain valve” means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

“Community garden” means a piece of property or area of a property that is dedicated solely to edible plants and gardened by a cooperative group of people living in the area.

“Community water system” means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

“Developer-installed” means a landscape project installed by or under the direction of the developer of a development project.

“Ecological restoration project” means a project, where the primary function of such project is to assist in the recovery of an ecosystem that has been degraded, damaged, or destroyed. For purposes of this ordinance, restoration focuses on establishing the composition, structure, pattern, and ecological processes necessary to make terrestrial and aquatic ecosystems sustainable, resilient, and healthy under current and future conditions.

“Estimated Total Water Use” (ETWU) means the total water used for the landscape.

“ET adjustment factor” (ETAF) means, except for special landscape areas, a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The

ET adjustment factor for special landscape areas shall not exceed 1.0.

“Evapotranspiration” (ETO) means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

“Head to head coverage” means full coverage from one sprinkler head to the next.

“Homeowner-provided landscaping” means any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner.

“Hydrozone” means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

“Invasive plant species” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources.

“Irrigation audit” means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

“Irrigation efficiency” (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this ordinance is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.

“Landscape area” means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

“Landscape contractor” means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

“Landscape project” means total area of landscape in a project as defined in “landscape area” for the purposes of this ordinance, meeting requirements under Section 13.40(2) (Applicability).

“Low volume irrigation” (also “point source irrigation”) means the application of irrigation



water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plant.

“Low-head drainage” means water that flows out of the system after the valve turns off due to elevation changes within the system.

“Maximum Applied Water Allowance” (MAWA) means the upper limit of annual applied water for the established landscaped area. It is based upon the area’s reference evapotranspiration, the ET Adjustment Factor (ETAF), and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance.

“Mined-land reclamation projects” means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

“Mulch” means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

“New construction” means, for the purposes of this ordinance, a new building or structure with a landscape, such as a house, accessory structure, pool, gazebo, or commercial or industrial building. This definition also includes other new landscapes, such as a park, playground, or greenbelt without an associated building.

“Overhead irrigation system” means a system that delivers water through the air (e.g., spray heads and rotors).

“Overspray” means the irrigation water which is delivered beyond the target area.

“Pervious” means any surface or material that allows the passage of water through the material and into underlying soil.

“Plant factor” is a factor, when multiplied by ETO, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for low water use plants is 0 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the Department of Water Resources 2000 publication “Water Use Classification of Landscape Species.”

“Point source irrigation” see low volume irrigation.

“Precipitation rate” means the rate of application of water measured in inches per hour.

“Rain sensor” means a component which automatically suspends an irrigation event when it

rains.

“Recycled water” means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.

“Reference Evapotranspiration” or “ET)” means a standard measurement of environmental parameters that affect the water use of plants, and is an estimate of the Evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered.

“Rehabilitated landscape” means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 8-2.3702 (Applicability), and the modified landscape area is equal to or greater than 2,500 square feet, is 50% of the total landscape area, and the modifications are completed within one year.

“Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

“Special Landscape Area” (SLA) means an area of the landscape dedicated solely to edible plants (food producing gardens), areas irrigated with recycled water, water features using recycled water, storm water detention basins, and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

“Subsurface irrigation” means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

“Swing joint” means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

“Turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses. The meaning of “turf” does not include landscape areas planted with non-irrigated native California grasses.

“Water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features, and therefore, are not subject to the water budget calculation.

**(4) Submittal Requirements.**

(a) Landscape Documentation Package. Prior to commencing construction on a landscape project subject to the provisions of this Article, a Landscape Documentation Package shall be submitted to the County for review and approval.

(1) The Landscape Documentation Package shall be filed with the Planning and Public Works Department on a City approved application form. The Landscape Documentation Package application shall include all required fees and/or deposits, and all plans, specifications, and submittals required by the department, including but not limited to:

- (i) General project information
- (ii) Water Efficient Landscape Worksheet
- (iii) Soil management report
- (iv) Landscape and grading design plan
- (v) Irrigation design plan

(2) The Landscape Documentation Package application shall only be approved after the City verifies that the proposed landscape project complies with the provisions of this Ordinance, other applicable provisions of this code, and any applicable conditions of a discretionary permit or other entitlement.

(b) Certificate of Completion. Following installation of landscaping subject to the provisions of this Article, the project applicant shall submit a Certificate of Completion to the City for review and final approval.

(1) Prior to issuance of a certificate of occupancy or final building or grading permit, the Certificate of Completion shall be submitted to the Planning and Public Works Department on a form prescribed by the City that shall include the following information and documentation:

- (i) General project information
- (ii) Certificate of Installation
- (iii) Copy of Landscape Irrigation Audit

(c) Permit Issuance and Enforcement.

(1) Upon successful completion of the Certificate of Completion, the City shall issue a "final" landscape permit to the property owner/project applicant.

(2) The City may conduct inspections for the purpose of enforcing this Ordinance and, as necessary and appropriate, may utilize any of the enforcement mechanisms set forth in the Rio Dell Municipal Code or otherwise authorized by law to address violations.

## **(5) Landscaping Standards.**

All landscape projects subject to the provisions of this Ordinance shall comply with the following landscaping standards.

### **(a) Plant selection and grouping.**

(1) Any plant may be selected for the landscape, providing the Estimated Total Water Use (ETWU) in the landscape area does not exceed the Maximum Applied Water Allowance (MAWA), and that the plants meet the specifications set forth in (2), (3), (4), and (5) below.

(2) With the exception of Special Landscape Areas, a minimum 25% of landscape area shall be comprised of native plants.

(3) Plants having similar water needs shall be grouped together in distinct hydrozones.

(i) Within distinct hydrozones, plants of moderate and low water use, or moderate and high water use can be mixed, so long as the plant factor of the higher water using plant is used for calculations.

(ii) High water use plants shall not be mixed with low water use plants.

(4) Plants shall be selected appropriately based on their adaptability to the climate, geologic, and topographical conditions of the site. Protection and preservation of existing native California species and natural areas is encouraged.

(5) The use of invasive plant species, as listed in the California Invasive Plant Inventory produced by the California Invasive Plant Council, or as determined by the Director of Planning and Public Works, is prohibited.

(6) Fire prevention needs shall be addressed in fire-prone areas. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b).

### **(b) Turf requirements.**

(1) Turf shall not be planted on slopes exceeding 25% where the toe of the slope is adjacent to or within four feet of an impermeable hardscape (rise divided by run x 100 = slope percent).

### **(c) Soil Amendments, conditioning, and mulching.**

(1) A minimum three (3) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications. To provide habitat for beneficial insects and other wildlife, up to 5% of the landscape area may be left without mulch. Designated insect habitat must be included in the

landscape design plan as such.

(2) Stabilizing mulching products shall be used on slopes.

(3) Soil amendments shall be incorporated based on the recommendations of the soil management report.

(d) Water features.

(1) Recirculating water systems shall be used for all water features.

(2) The surface area of a water feature shall be indicated on the landscape plans and included in the high water use hydrozone area of the water budget calculation.

(3) Recycled water shall be used for decorative water features when available on site.

(e) Stormwater Management.

(1) The landscape project area shall be graded so that all irrigation and normal rainfall remains within the property lines and does not drain on to non-permeable hardscapes.

(2) Rain gardens, cisterns, and other landscape features and practices that increase rainwater capture and create opportunities for infiltration and/or onsite storage are recommended.

(3) Soil compaction in landscape areas is prohibited unless required by the geotechnical or engineering report.

#### **(6) Irrigation Requirements.**

This section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package. All landscape projects subject to the provisions of this Ordinance shall comply with the following irrigation requirements.

(a) Irrigation system.

(1) Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sq.ft. (the level at which Water Code 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either:

- (i) A customer service meter dedicated to landscape use provided by the local water purveyor; or
  - (ii) A privately owned meter or submeter.
- (2) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.
- (3) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
- (i) If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
  - (ii) Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
- (4) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
- (5) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.
- (6) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
- (7) Flow sensors that detect high flow conditions created by system damage or malfunction are required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.
- (8) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- (9) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or

other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.

(10) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.

(11) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

(12) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 of Title 23, Division 2, Chapter 2.7 of the California Code of Regulations (CCR) regarding the Maximum Applied Water Allowance.

(13) All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard, All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(14) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.

(15) In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.

(16) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.

(17) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

(18) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.

(19) Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.

(20) Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produce no runoff or overspray.

(21) Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface.

Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:

- (i) The landscape area is adjacent to permeable surfacing and no runoff occurs; or
- (ii) The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
- (iii) The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7 (a)(1)(I) of Title 23, Division 2, Chapter 2.7 of the California Code of Regulations (CCR). Prevention of overspray and runoff must be confirmed during the irrigation audit.

(22) Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(b) Hydrozones.

(1) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

(2) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

(3) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.

(4) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:

- (i) Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
- (ii) The plant factor of the higher water using plant is used for calculations.

(5) Individual hydrozones that mix high and low water use plants shall not be permitted.

(6) On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the



Hydrozone Information Table (Appendix B Section A of Title 23, Division 2, Chapter 2.7 of the California Code of Regulations (CCR). This table can also assist with the irrigation audit and programming the controller.

**(7) Public Education.**

Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged throughout Rio Dell.

(a) Literature and resources. The Planning and Public Works Department shall make available information to the general public regarding the design, installation, management, and maintenance of water efficient landscapes.

(b) Model homes. Landscaping shall be installed, in compliance with this Ordinance, for all model homes in subdivisions where a Final Subdivision Map has been approved by the City. The landscaping for model homes shall incorporate the policies of this Ordinance and the developer shall include the following:

(1) Signs that identify the model home landscaping as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme.

(2) Literature shall be provided to anyone touring a model home that describes the design, installation, management, and maintenance of water efficient landscapes.

**Section 2. Limitation of Actions**

Any action to challenge the validity or legality of any provision of this ordinance on any grounds shall be brought by court action commenced within ninety (90) days of the date of adoption of this ordinance.

**Section 3. CEQA Compliance**

The City Council has determined that the adoption of this ordinance is exempt from review under the California Environmental Quality Act (CEQA), subject to Section 15061(b)(3) of the CEQA Guidelines. Due to the nature of the proposed code revisions, there is no evidence that any significant impact to the environment would occur as a result of adoption of the Ordinance.

**Section 4. Effective Date**

This ordinance becomes effective thirty (30) days after the date of its approval and adoption.

**I HEREBY CERTIFY** that the forgoing Ordinance was duly introduced at a regular meeting of the City Council of the City of Rio Dell on December 3, 2019 and furthermore the forgoing Ordinance was passed, approved and adopted at a regular meeting of the City Council of the City of Rio Dell, held on the December 17, 2019 by the following vote:

AYES:  
NOES:  
ABSENT:  
ABSTAIN:

---

Debra Garnes, Mayor

ATTEST:

I, Karen Dunham, City Clerk for the City of Rio Dell, State of California, hereby certify the above and foregoing to be a full, true and correct copy of Ordinance No. 378-2019 which was passed, approved and adopted at a regular meeting of the City Council of the City of Rio Dell, held on December 17, 2019.

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Karen Dunham, City Clerk, City of Rio Dell



## Model Water Efficient Landscape Ordinance (MWELo) Fact Sheet

### Why is the City establishing a Water Efficient Landscape Ordinance?

The purpose of the Model Water Efficient Ordinance is to add provisions to the Rio Dell Municipal Code to address permitting requirements for water efficient landscaping. These changes are necessary to reflect changes in California law (Assembly Bill 1881, Government Code Section 65591 et seq.) and to promote the conservation and efficient use of water. The City has adopted the State Model Water Efficient Ordinance.

### Which projects are subject to the Ordinance?

All new development projects are subject to the Ordinance. This applies to new and rehabilitated residential, commercial, industrial and institutional projects that require a permit, plan check or design review.

### Can I use the prescriptive checklist option for smaller landscape projects?

Developer installed or Homeowner provided landscaping in Single-Family or Two-Family residential projects with *landscape areas* under 2500 sq. ft. may comply with the newly developed prescriptive measures contained in the State's Ordinance.

*"landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).*

### What are the other significant revisions?

#### More Efficient Irrigation Systems

- Dedicated landscape water meters or submeters are required for residential landscapes over 5000 sq. ft. and non-residential landscapes over 1000 sq. ft.
- Irrigation systems are required to have pressure regulators and master shut-off valves.

- All irrigation emission devices must meet the national standard stated in the Ordinance to ensure that only high efficiency sprinklers are installed.
- Flow sensors that detect and report high flow conditions due to broken pipes and/or popped sprinkler heads are required for landscape areas greater than 5000 sq. ft.
- The minimum width of areas that can be overhead irrigated was changed from 8 feet to 10 feet; areas less than 10 feet wide must be irrigated with subsurface drip or other technology that produces no over spray or runoff.

### **Incentives for Graywater**

Landscapes under 2500 sq. ft. that are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of the Prescriptive Compliance Option.

### **Improvements in Onsite Stormwater Capture**

Friable soil is required in planted areas to maximize water retention and infiltration. Four yards of compost per 1000 sq. ft. of area must be incorporated. Other recommended measures for increasing onsite stormwater retention are listed in the Ordinance.

### **Limiting the Portion of Landscapes that can be planted with High Water Use Plants**

The maximum amount of water that can be applied to a landscape is reduced from 70% of the reference evapotranspiration (ETO) to 55% for residential landscape projects, and to 45% of ETO for non-residential projects. This water allowance reduces the landscape area that can be planted with high water use plants such as turf.

For residential projects, the coverage of high water use plants is reduced from 33% to 25% of the landscaped area. In non-residential landscapes, planting with high water use plants is not feasible. However, unchanged in the Ordinance is the extra water allowance made for non-residential areas when used for specific functional areas, such as recreation and edible gardens. The irrigation efficiency of devices used to irrigate landscapes is one of the factors that goes into determining the maximum amount of water allowed. Rather than having one default irrigation efficiency for the entire site, the revised Ordinance allows the irrigation efficiency to be entered for each area of the landscape. The site-wide irrigation efficiency of the previous ordinance was 0.71; the revised Ordinance defines the irrigation efficiency of drip as 0.81 and that of overhead spray as 0.75. Median strips cannot be landscaped with high water use plants, precluding the use of turf. Also because of the requirement to irrigate areas less than ten feet wide with subsurface irrigation or other means that produces no runoff or overspray, the use season turf in parkways is limited.

### **How do I comply with the ordinance?**

Prior to construction, the project applicant shall:

Submit a Landscape Documentation Package to the City of Davis.

The Landscape Documentation Package shall include six (6) elements:

1. Project information
2. Water Efficient Landscape Worksheet
3. Soil management report
4. Landscape design plan
5. Irrigation design plan
6. Grading design plan

### **At completion of the project, the project applicant shall:**

1. Submit the signed Certificate of Completion to the City for review.
2. Ensure that copies of the approved Certificate of Completion are provided to the property owner or his or her designee.

### **Reporting Requirements**

All local agencies will report to the Department of Water Resources on the implementation and enforcement of their ordinances by January 31st of each year.



## Model Water Efficient Landscape Ordinance (MWELo) Project Information

<b>Applicant Information</b>	
Name of Project Applicant	
Contact Person	Title
Email Address	Phone No.
Address	
<b>Project Location/Owner</b>	
Address	APN
Property Owner	Phone No.
Email Address	Fax No.
Mailing Address	

Currently, this project does not include landscaping. I am aware that future landscape installations may be required to comply with the Model Water Efficient Landscape Ordinance (MWELo) requirements per California Code of Regulations, Title 23, Division 2, Chapter 2.7.

This project does incorporate landscaping. *(Please provide the information below specific to the landscape area which will be completed as part of this project and specify the compliance method to be used):*

Total Landscape Area (sq. ft.): \_\_\_\_\_ Turf Area (sq. ft.): \_\_\_\_\_  
 Non-Turf Plan Area (sq. ft.): \_\_\_\_\_ Special Landscape Area (sq. ft.): \_\_\_\_\_

**Compliance Method**

- Performance (Items included in Performance Checklist is included on plans)
- Prescriptive (Items included in Prescriptive Checklist is included on plans)

**Signature**

I certify that the above information is correct and agree to comply with the requirements of the MWELo

\_\_\_\_\_  
 Signature of Property Owner or Authorized Representative

\_\_\_\_\_  
 Date



## Model Water Efficient Landscape Ordinance (MWEL0) Short Form Prescriptive Compliance

<b>Applicant Information</b>	
Name of Project Applicant	
Email Address	Phone No.
Address	
<b>Project Location/Owner</b>	
Address	APN
Property Owner	Phone No.
Email Address	Fax No.
Mailing Address	

**Project Type:**  New Residential  New Commercial  Rehabilitation/Remodel  
**Water Source:**  City Water  Private Well

This project incorporates landscaping equal to or less than 2500 sq ft and will be using this form to identify prescriptive requirements which will be included as part of the landscape project. (Please provide the information below specific to the landscape area and identify the location on the plans each design measure can be found using the LANDSCAPE WATER-EFFICIENCY CHECKLIST on page two):

Total Landscape Area (sq. ft.): \_\_\_\_\_ Turf Area (sq. ft.): \_\_\_\_\_  
 Non-Turf Plan Area (sq. ft.): \_\_\_\_\_ Special Landscape Area (sq. ft.): \_\_\_\_\_

**Signature**

I certify that the above information is correct and agree to comply with the prescriptive requirements identified on the following page.

\_\_\_\_\_  
 Signature of Property Owner or Authorized Representative

\_\_\_\_\_  
 Date

**LANDSCAPE WATER EFFICIENCY CHECKLIST FOR LANDSCAPE  
AREAS 2,500 SQUARE FEET OR LESS**

Landscape Element	Design Measures	Location on Plans
Compost	Incorporate a compost rate of at least four (4) cubic yards per 1,000 square feet to a depth of six (6) inches into landscape area. Exception: Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.	
Plant Water Use	<p><b>Residential:</b> Install drought resistant native plants that require occasional, little or no summer irrigation (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water.</p> <p><b>Non-Residential:</b> Install drought resistant native plants that require occasional, little or no summer irrigation (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water.</p>	
Mulch	A minimum of a three (3) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of turf or creeping or rooting groundcovers.	
Turf	Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).	
Irrigation	<p>Irrigation controllers use evapotranspiration or soil moisture data and utilize a rain sensor.</p> <p>Irrigation controller programming date will not be lost due to an interruption in the primary power source.</p> <p>Areas less than 10 feet in any direction shall utilize sub-surface irrigation or other technology that prevents overspray or runoff.</p> <p>Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sq. ft. (the level at which Water Code 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either:</p> <p style="margin-left: 40px;">(i) A customer service meter dedicated to landscape use provided by the local water purveyor; or</p> <p style="margin-left: 40px;">(ii) A privately owned meter or submeter.</p>	

*Landscape area includes all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).*





## Model Water Efficient Landscape Ordinance (MWELO) Performance Approach

<b>Applicant Information</b>	
Name of Project Applicant	
Email Address	Phone No.
Address	
<b>Project Location/Owner</b>	<b>*Evapotranspiration Rate 27.5</b>
Address	APN
Property Owner	Phone No.
Email Address	Fax No.
Mailing Address	
<b>Plan Check - Staff Use Only</b>	
Plan Check Submittal Date	Permit No.
<input type="checkbox"/> Approved <input type="checkbox"/> Need Additional Information – See Attached Comments	

*\*Source: Appendix A Title 23, Chapter 2.7 CCR*

### **Landscape Documentation Package (Title 23, Chapter 2.7 §492.3 CCR)**

- The project's address, total landscape area, water supply type, and contacts shall be stated on the plans.
- Add, sign and date the following statement on the plans: "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package."
- Water Efficient Landscape Worksheet that includes a hydrozone information table and water budget calculations shall be submitted for plan check.
- A landscape design plan and irrigation design plan shall be submitted for plan check.

### **Water Efficient Landscape Worksheet (Title 23, Chapter 2.7 §492.4 and §492.13 CCR)**

- Incorporate the Water Efficient Landscape Worksheet into plans. Show that the Maximum Applied Water Allowance (MAWA) meets or exceeds the calculated Estimated Total Water Use (ETWU).
- The evapotranspiration adjustment factor (ETAF) for the landscape project shall not exceed a factor of (0.55 for residential areas) (0.45 for non-residential areas).
- The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions. WUCOLS plants database can be found online at:  
<http://ucanr.edu/sites/WUCOLS/>
- All water features shall be included in the high water use hydrozone. All temporary irrigated areas shall be included in the low water use hydrozone.
- All Special Landscape areas shall be identified on the plans. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.
- For the purpose of calculating ETWU, the irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices.

### **Landscape Design Plan (Title 23, Chapter 2.7 §492.6 CCR)**

- The landscape design plans, at a minimum, shall:
  - Delineate and label each hydrozone by number, letter, or other methods.
  - Identify each hydrozone as low, moderate, high water, or mixed water use.
  - Identify recreational areas, areas solely dedicated to edible plants, areas irrigated with recycled water, type and surface area of water features, impermeable and permeable hardscape, and any infiltration systems.
- For hydrozone with a mix of both low and moderate water use plants or both moderate and high water use plants, the higher plant factor or the plant factor based on the proportions of the respective plant water uses shall be used. Hydrozones containing a mix of low and high water use plants is not permitted.
- Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape.
- Add note to plans: "Recirculating water systems shall be used for water features"
- Add note to plans: "A minimum 3-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated."

- Add note to plans: "For soils less than 6% organic matter in the top 6 inches of soil, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil".

**Irrigation Design Plan (Title 23, Chapter 2.7 §492.7 CCR)**

- The irrigation plans, at a minimum, shall contain the following:
  - Location and size of spate water meters for landscape
  - Location, type, and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices.
  - Static water pressure at the point of connection the public water supply
  - Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station.
- A dedicated water service meter or private submeter shall be installed for all (non-residential irrigated landscapes of at least 1,000 sq. ft.) (residential irrigated landscape areas of at least 5,000 sq. ft.)
- Add note to plans: "Pressure regulating devices are required if water pressure is below or exceeds the recommended pressure of the specified irrigation devices."
- Manual shut-off valves shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency or routine repair.
- Add note to plans: "Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur."
- Areas less than 10-feet in width in any direction shall be irrigated with subsurface or drip irrigation.
- Overhead irrigation shall not be permitted within 24-inches of any non-permeable surface.

**Required Statements and Certification (Title 23, Chapter 2.7 §492.6, §492.7 & §492.9 CCR)**

- Add the following statement on the landscape and irrigation plans: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plans".

- The final set of landscape and irrigation plans shall bear the signature of a licensed landscape architect, licensed landscape contractor, certified irrigation designer, licensed architect, licensed engineer, licensed land surveyor or personal property owner.
- Add note to plans: "A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes."
- Add note to plans: "A Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, irrigation plans, or the licensed landscape contractor for the project"
- Add note to plans: "An irrigation audit report shall be completed at the time of final inspection."

## WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) \_\_\_\_\_

Hydrozone # /Planting Description <sup>a</sup>	Plant Factor (PF)	Irrigation Method <sup>b</sup>	Irrigation Efficiency (IE) <sup>c</sup>	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU) <sup>e</sup>
<b>Regular Landscape Areas</b>							
				Totals	(A)	(B)	
<b>Special Landscape Areas</b>							
				1			
				1			
				1			
				Totals	(C)	(D)	
						<b>ETWU Total</b>	
						<b>Maximum Allowed Water Allowance (MAWA)<sup>e</sup></b>	

<sup>a</sup>**Hydrozone #/Planting Description**  
 E.g  
 1.) front lawn  
 2.) low water use plantings  
 3.) medium water use planting

<sup>b</sup>**Irrigation Method**  
 overhead spray  
 or drip

<sup>c</sup>**Irrigation Efficiency**  
 0.75 for spray head  
 0.81 for drip

<sup>d</sup>**ETWU (Annual Gallons Required) =**  
 $Eto \times 0.62 \times ETAF \times Area$   
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

<sup>e</sup>**MAWA (Annual Gallons Allowed) =**  $(Eto) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$   
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

### ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)	
Total Area	(A)	
<b>Average ETAF</b>	<b>B ÷ A</b>	

**Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.**

All Landscape Areas

Total ETAF x Area	(B+D)	
Total Area	(A+C)	
<b>Sitewide ETAF</b>	<b>(B+D) ÷ (A+C)</b>	

A copy of this form may be obtained from Department of Water Resources website:  
<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

## Sample Water Efficient Landscape Worksheet

### WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) 50.1

Hydrozone # /Planting Description <sup>a</sup>	Plant Factor (PF)	Irrigation Method <sup>b</sup>	Irrigation Efficiency (IE) <sup>c</sup>	ETAF (PF/IE)	Landscape Area (sq, ft.)	ETAF x Area	Estimated Total Water Use (ETWU) <sup>e</sup>
<b>Regular Landscape Areas</b>							
1 / FRONT YARD	.8	Spray	.75	0.94	1,000	940	29,198
2 / SIDE YARD	.5	Drip	.81	0.61	300	183	5,685
3 / REAR YARD	.3	Drip	.81	0.37	3,300	1221	37,927
4 / POOL	1.0	n/a	1	1	400	400	12,425
				Totals	5,000 (A)	2744 (B)	
<b>Special Landscape Areas</b>							
NONE				1	----	----	----
-----				1	----	----	----
-----				1	----	----	----
				Totals	0 (C)	0 (D)	
<b>ETWU Total</b>							<b>85,234</b>
<b>Maximum Allowed Water Allowance (MAWA)<sup>e</sup></b>							<b>85,420</b>

<sup>a</sup>Hydrozone #/Planting Description

E.g

- 1.) front lawn
- 2.) low water use plantings
- 3.) medium water use planting

<sup>e</sup>MAWA (Annual Gallons Allowed) = (Eto) ( 0.62) [ (ETAF x LA) + ((1-ETAF) x SLA)]

where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

<sup>b</sup>Irrigation Method

overhead spray or drip

<sup>c</sup>Irrigation Efficiency

0.75 for spray head  
0.81 for drip

<sup>d</sup>ETWU (Annual Gallons Required) =

Eto x 0.62 x ETAF x Area  
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

### ETAF Calculations

#### Regular Landscape Areas

Total ETAF x Area	(B)	2744
Total Area	(A)	5000
Average ETAF	B ÷ A	0.549

**Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.**

#### All Landscape Areas

Total ETAF x Area	(B+D)	2,744
Total Area	(A+C)	5,000
Sitewide ETAF	(B+D) ÷ (A+C)	0.549

A copy of this form may be obtained from Department of Water Resources website:  
<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

<b>Appendix A - Reference Evapotranspiration (ETo) Table*</b>													
<b>County and City</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual ETo</b>
<b>FRESNO</b>													
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8
<b>GLENN</b>													
Orland	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
<b>HUMBOLDT</b>													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopa	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
<b>IMPERIAL</b>													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
<b>INYO</b>													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
<b>KERN</b>													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5
Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9
<b>KINGS</b>													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7



## Model Water Efficient Landscape Ordinance (MWELO) Certificate of Completion

This certificate is filled out by the project applicant upon completion of the landscape project.

### PART 1. PROJECT INFORMATION

Date	Project Name		
Name of Project Applicant			
Contact Person		Title	
Email Address		Phone No.	
Company		Phone No.	
Address			
<b>Project Location/Owner</b>			
Address		APN	
Property Owner		Phone No.	
Email Address		Fax No.	
Mailing Address			

**Property Owner**

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

\_\_\_\_\_  
 Property Owner Signature

\_\_\_\_\_  
 Date



**PART 2. CERTIFICATION OF INSTALLATION**  
**ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE**

*"I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."*

Signature*	Date
Name (print)	Telephone No.
	Fax No.
Title	Email Address
Company	License No. or Certification No
Address	

*\*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.*

**PART 3. IRRIGATION SCHEDULING**

- Attach parameters for setting the irrigation schedule on controller.

**PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE**

- Attach schedule of Landscape and Irrigation Maintenance.

**PART 5. LANDSCAPE IRRIGATION AUDIT REPORT**

- Attach Landscape Irrigation Audit Report.

**PART 6. SOIL MANAGEMENT REPORT**

- Attach soil management report, if not previously submitted with the Landscape Documentation Package.
- Attach documentation verifying implementation of recommendations from soil management report.

**For Office Use Only:**

Application/Permit No.	Received By:	Reviewed By:
	Received Date:	Approved Date:

You may see below for simple footage calculations. For more complex footage calculations, it may be necessary for you to request assistance from your contractor or landscaper. In some cases, your local water agency may also be able to offer assistance to ensure accurate measurements.

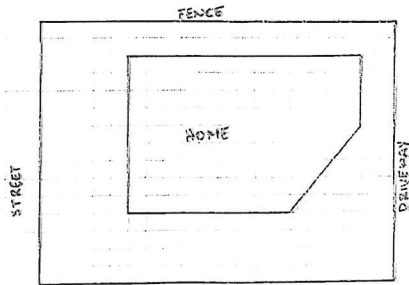
**How to measure the square footage of your project area**

To measure your project area, gather the following tools and follow the steps below. There are also online satellite imagery websites that may be able to help you measure your lawn’s square footage. If you will be using a contractor for completion of your project, ask that they measure your project area to ensure the correct amount of footage is requested in your application.

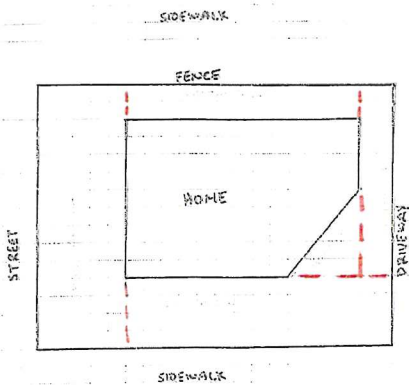
**Tools you will need:**

- Measuring tape or measuring wheel
- Graph paper (free templates available online)

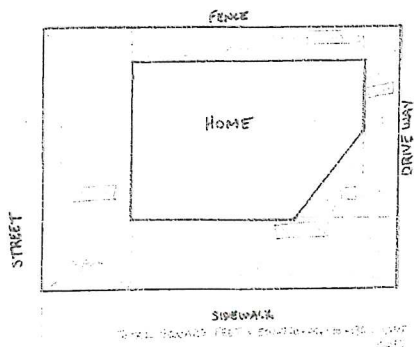
**Steps for measuring your lawn:**



1. Utilize the graph paper to make a drawing of your home and the borders of your yard. Write in any descriptions of nearby items such as driveways, fences, or sidewalks. This will help you orient yourself.



2. Divide the project area into easily measured shapes such as rectangles, squares, triangles and circles. A list of formulas to find the square feet of these shapes is included below.



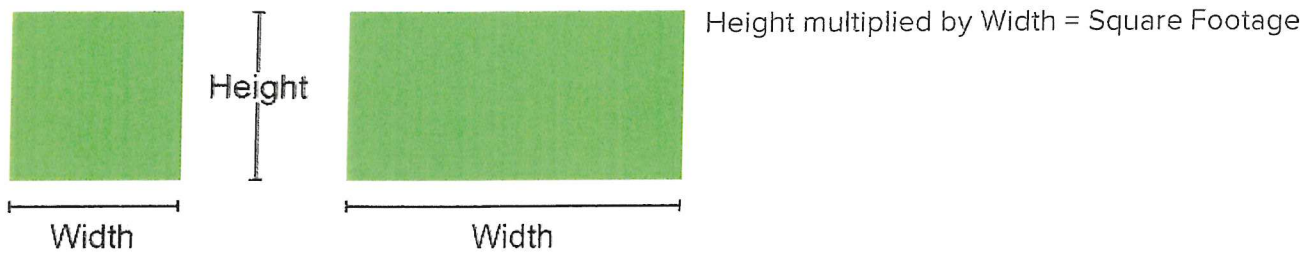
3. Take measurements to find out the square footage of each shape in your yard. Then add up the square footage of each shape for total square footage.

### Helpful formulas to find square footage

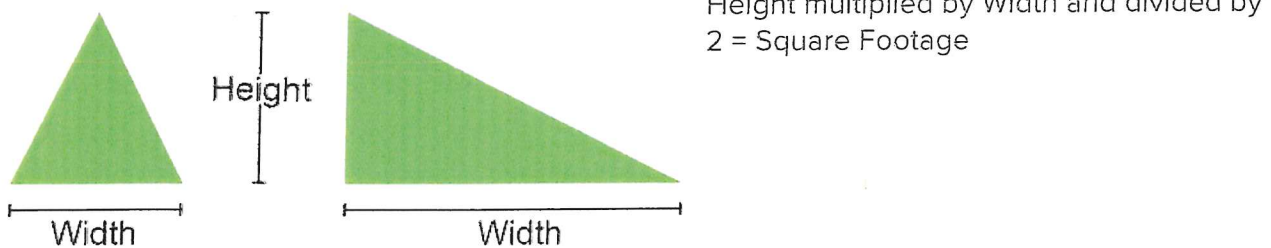
There are many online “area calculator tools” that will calculate the square footage of common shapes after you enter in the required measurements.

Squares, rectangles, and triangles will be the most common shapes in your yard. The formulas for finding their square footage are below. If you have more unusual shapes, you can find out how to calculate their square footage here on many websites.

#### Square or Rectangle



#### Triangle



**Note:** Accuracy in footage is very important. We cannot increase your footage after your project has been pre-approved, so please strive to provide as accurate information as possible in your application. Please note that the program may review your requested footage and reduce the project area if a discrepancy is noted.